

Solution Requirements (Functional & Non-functional)

Date	27 June 2025
Team ID	LTVIP2025TMID44008
Project Name	Transfer Learning-based Classification of Poultry Diseases for Enhanced Health Management
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Login & Authentication	<ul style="list-style-type: none">- Login with Email/Password- OAuth with Gmail/LinkedIn
FR-2	Image & Symptom Submission	<ul style="list-style-type: none">- Upload poultry image- Select/enter symptoms- Form validation
FR-3	Disease Prediction	<ul style="list-style-type: none">- Send data to ML model- Receive classification & confidence score
FR-4	Visual Explanation	<ul style="list-style-type: none">- Generate Grad-CAM heatmap- Overlay on uploaded image
FR-5	Display Output	<ul style="list-style-type: none">- Show predicted disease, treatment, and visualization
FR-6	Language Preference	<ul style="list-style-type: none">- Switch between English, Telugu, Hindi
FR-7	Role-Based Dashboard	<ul style="list-style-type: none">- Farmer view- Vet/Student view- Admin view

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The application should be simple, intuitive, and mobile-friendly for rural users.
NFR-2	Security	Secure authentication, encrypted communication (HTTPS), role-based access control.
NFR-3	Reliability	The system should maintain 99% uptime and ensure consistent behavior under expected loads.
NFR-4	Performance	Model prediction must return results within 3 seconds for uploaded images.
NFR-5	Availability	Web app should be accessible 24/7 on mobile and desktop, even in low-bandwidth conditions.
NFR-6	Scalability	Should scale to support additional diseases, users, and multilingual support over time.