Solution Requirements (Functional & Non-functional)

Date	27 June 2025
Team ID	LTVIP2025TMID43995
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	- Login with Email/Password - OAuth with Gmail/LinkedIn
FR-2	Image & Symptom Submission	- Upload poultry image - Select/enter symptoms - Form validation
FR-3	Disease Prediction	- Send data to ML model - Receive classification & confidence score
FR-4	Visual Explanation	- Generate Grad-CAM heatmap - Overlay on uploaded image
FR-5	Display Output	- Show predicted disease, treatment, and visualization
FR-6	Language Preference	- Switch between English, Telugu, Hindi
FR-7	Role-Based Dashboard	- 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.