Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	21 June 2025
Team ID	LTVIP2025TMID34708
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	Data Acquisition	- Collect poultry health data (symptoms, mortality, feed intake) - Collect environmental data (temperature, humidity)
FR-2	Data Preprocessing	- Clean and normalize collected data - Encode categorical and numerical features for model ingestion
FR-3	Disease Prediction	- Train machine learning model using historical and real-time poultry health data - Evaluate and validate model performance
FR-4	Real-Time Prediction Service	- Expose prediction results via REST API - Notify farm managers/veterinarians about potential disease risks
FR-5	Farm Management Decision Support	- Suggest preventive measures and early interventions based on predictions - Generate alerts for high-risk zones within the farm
FR-6	Reporting and Monitoring	- Generate disease trend reports for farm planners - Display data on admin and farm dashboards for monitoring

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	User-friendly UI for farmers, veterinarians, and agriculture officers
NFR-2	**Security**	Encrypted data transmission, role-based access control, secure APIs for farm data
NFR-3	**Reliability**	Accurate disease predictions with stable model deployment and monitoring
NFR-4	**Performance**	Real-time prediction responses within 2 seconds for uploaded symptom and environment data
NFR-5	**Availability**	System available 24/7 for farmers with automatic failover and uptime monitoring

NFR-6	**Scalability**	Easily handles increased data volume (multiple farms) and concurrent user access