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

Date	31 January 2025
Team ID	LTVIP2026TMIDS82253
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	4 Marks

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through username
		Registration through password
		Registration through email
FR-2	User Confirmation	Confirmation via Email
FR-3	Image Upload / Input	Upload retinal fundus image
FR-4	Prediction / Smart Sorting	Detect presence of diabetic retinopathy using deep learning
		Provide confidence score for prediction
		Classify severity level (No DR, Mild, Moderate, Severe, Proliferative)
FR-5	View Results / Reports	Display classification result immediately
		Show past predictions history (optional)
FR-6	Admin / Dataset Management (if applicable)	Upload new training data (admin)

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
		Trigger model retraining (admin)

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system should have a clean, intuitive UI for users to easily upload images and view results without technical expertise.
NFR-2	**Security**	The system should protect user data (images, login info) using encryption and secure authentication methods.
NFR-3	**Reliability**	The system should consistently provide accurate predictions with minimal failure or downtime during usage.
NFR-4	**Performance**	The prediction response time should be under 2 seconds for a single image classification.
NFR-5	**Availability**	The system should be available 24/7 with minimal service interruptions.
NFR-6	**Scalability**	The solution should handle increasing users or image inputs by scaling the model inference service and storage infrastructure as needed.