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

Date	18 June 2025 2025
Team ID	CQernmDY
Project Name	GrainPalette - A Deep Learning Odyssey In Rice Type Classification Through Transfer Learning
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	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Image upload	Model classifies the uploaded rice image Display predicted rice type and confidence score
FR-4	Rice type classification	Upload rice grain image from local device Upload image from mobile camera

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 have a simple, intuitive, and user-friendly interface so that farmers, traders, and non-technical users can easily upload images and view results
NFR-2	**Security**	The system should ensure data privacy and secure storage of user-uploaded images. User authentication should be implemented for account-based access
NFR-3	**Reliability**	The model should provide consistent and repeatable classification results with a minimum accuracy of 80% across multiple runs and inputs.
NFR-4	**Performance**	The system should process and classify each image within 5 seconds to ensure fast response time for users.
NFR-5	**Availability**	The service should be available 24/7 with a downtime of less than 2% per month.
NFR-6	**Scalability**	The solution should be scalable to handle large datasets and more rice types in the future without affecting performance. It should also support deployment on cloud platforms