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

Date	30 june 2025
Team ID	LTVIP2025TMID38674
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	User login	Login via EmailEmail & password Login via Gmail Login via linkedin
FR-4	Profile management	view profile Edit profile

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description

NFR-1	**Usability**	GrainPalette's deep learning model provides high classification accuracy, outperforming traditional methods.
NFR-2	**Security**	Protect sensitive data, such as rice grain images, using encryption techniques.
NFR-3	**Reliability**	GrainPalette achieves high accuracy in classifying rice grains into different types, thanks to its deep convolutional neural network (CNN) architecture.
NFR-4	**Performance**	GrainPalette achieves over 99% accuracy in classifying rice grain types using a transfer learning model (MobileNetV2).
NFR-5	**Availability**	GrainPalette is a deep learning-based web application designed to classify different types of rice grains using transfer learning with MobileNetV2.
NFR-6	**Scalability**	GrainPalette scales well to handle increasing data volumes and can be deployed in various agricultural settings.