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

Date	18 February 2026
Team ID	LTVIP2026TMIDS80710
Project Name	Smart Sorting:Transfer learning for Identifying rotten fruits and vegetables
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	Capture Produce Images	Real-time image capture using cameras on conveyor belts, docks, or fridges
FR-2	Preprocess Images	Resize, normalize, and convert images for model compatibility
FR-3	Classification using Transfer Learning	Use fine-tuned VGG16 model to classify produce as fresh or rotten
FR-4	Display or Sort Results	Display results on dashboard or trigger sorting mechanism

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	User-friendly dashboard/web/mobile interface for plant workers or home users
NFR-2	**Security**	Local processing in home setup; secure API and restricted data access
NFR-3	**Reliability**	Consistent predictions through trained and validated deep learning models
NFR-4	**Performance**	Real-time classification (< 1 sec) with at least 95% accuracy
NFR-5	**Availability**	Works 24/7 in plant/supermarket setup; user alerts in real-time
NFR-6	**Scalability**	Easily expandable to other produce types and deployment environments