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

Date	27 June 2025
Team ID	LTVIP2025TMID59876
Project Name	Pattern Sense: Classifying Fabric Patterns using Deep 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	Image Input & Upload	Allow users to upload single fabric images via web interface
FR-2	Pattern Classification	Classify fabric images into predefined categories
FR-3	Data Preprocessing	Normalize, resize, and centre images before model inference

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Performance**	The system shall classify a single image in less than 2 seconds and handle batch uploads efficiently.
NFR-2	**Scalability**	The system shall scale horizontally to process increasing numbers of users or images concurrently.
NFR-3	**Availability**	The service shall maintain 99.5% uptime during operational hours
NFR-4	**Security**	All user data and API endpoints shall be secured via HTTPS and token-based authentication.
NFR-5	**Reliability**	The system shall recover gracefully from errors and log all failed classifications for review.