

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

Date	31 January 2025
Team ID	LTVIP2025TMID34512
Project Name	Pattern Sense: Classifying Fabric Patterns using Deep Learning
Maximum Marks	4 Marks

Functional Requirements:

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	Pattern Upload & Management	- Upload Fabric Pattern Image via Local Storage
		- Upload Fabric Pattern Image via Camera (Real-time)
		- View, Edit, or Delete Uploaded Patterns
FR-4	Pattern Classification & Results	- Automatic Pattern Detection using Deep Learning Model
		- Display Classification Results with Pattern Type
		- Confidence Score / Accuracy for Each Prediction
		- Option to Re-run Classification
FR-5	User Dashboard & History	- View Previous Pattern Classifications
		- Filter/Search Classification History
		- Download Classification Report (PDF/CSV)

Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system should provide an intuitive and user-friendly interface for both technical and non-technical users to upload images and view classification results easily.
NFR-2	Security	User data, including images and personal information, must be securely stored and transmitted using encryption. Authentication mechanisms (email/OTP) should be robust.
NFR-3	Reliability	The system should provide consistent and accurate pattern classification results with minimal errors, ensuring stable operation even under varying conditions.
NFR-4	Performance	The image classification process should deliver results within a maximum of 5 seconds for each uploaded pattern image.
NFR-5	Availability	The system should be accessible 99.5% of the time, ensuring minimal downtime for users.
NFR-6	Scalability	The system should be designed to handle increased user load and image uploads without significant performance degradation.