Project Design Phase
Proposed Solution Template

Date	27 June 2025
Team ID	LTVIP2025TMID59821
Project Name	Pattern Sense: Classifying Fabric Patterns using Deep Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Manual classification of fabric patterns is time-consuming, inconsistent, and error-prone, especially with high-volume textile production environments.
2.	Idea / Solution description	This project proposes an automated deep learning-based fabric pattern classification system using transfer learning, enabling accurate and fast categorization.
3.	Novelty / Uniqueness	The novelty lies in applying transfer learning with advanced CNN architectures (like ResNet) to distinguish complex and similar-looking textile patterns.
4.	Social Impact / Customer Satisfaction	The solution ensures quality control, reduces manual labor, enhances production efficiency, and improves customer satisfaction through consistent pattern accuracy.
5.	Business Model (Revenue Model)	The model can be offered as a SaaS tool or integrated into textile ERP systems for factories, fashion houses, and garment retailers.
6.	Scalability of the Solution	The model can scale across various textile industries with different pattern types and can be deployed on cloud, edge devices, or embedded systems.