**Project Design Phase**

**Proposed Solution Template**

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| Date | 20 June 2025 |
| Team ID | LTVIP2025TMID38838 |
| 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.

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Manual classification of fabric patterns is inefficient, time-consuming, and prone to error. This creates inconsistencies in design, manufacturing, and retail workflows. |
|  | Idea / Solution description | Develop a deep learning-based system that uses a Convolutional Neural Network (CNN) to automatically classify fabric patterns from images into predefined categories. |
|  | Novelty / Uniqueness | Unlike traditional methods or manual tagging, this solution uses fine-tuned AI models trained specifically on diverse fabric patterns, ensuring high accuracy and adaptability. |
|  | Social Impact / Customer Satisfaction | Improves productivity and reduces labor costs in the textile industry. Enhances user experience for e-commerce buyers and helps designers focus on creativity rather than routine classification. |
|  | Business Model (Revenue Model) | This solution can be monetized as a SaaS product for textile manufacturers, integrated into e-commerce platforms, or licensed to fashion tech companies and AI firms. |
|  | Scalability of the Solution | The model can be trained with larger datasets for broader fabric coverage, integrated into mobile apps, or scaled to global markets where textile classification is in demand. |