Project Design Phase-II

Solution Requirements (Functional & Non-functional)

|  |  |
| --- | --- |
| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID34546 |
| 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 | Fabric Image Upload | Upload image through file browser Drag-and-drop upload |
| FR-2 | Image Preprocessing | Resize image Normalize image Remove noise |
| FR-3 | Pattern Classification | Predict fabric class using CNN  Return label (e.g., floral, plain) |
| FR-4 | Result Display | Show predicted pattern on UI Show confidence score (e.g., 92%) |
|  |  |  |
|  |  |  |

# Non-functional Requirements:

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

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Easy-to-use interface for uploading and viewing results |
| NFR-2 | **Security** | User-uploaded data is not stored permanently;  secure upload pipeline |
| NFR-3 | **Reliability** | The model should produce consistent results across similar images |
| NFR-4 | **Performance** | The system should return predictions within 5  seconds |
| NFR-5 | **Availability** | The service should be available 99% of the time for classification |
| NFR-6 | **Scalability** | The system should handle increased image uploads without performance drop |