Project Design Phase-II

Data Flow Diagram & User Stories

Date: 15 June 2025

Team ID: LTVIP2025TMID34516

Project Name: Pattern Scene - Classifying Fabric Patterns Using Deep Learning

Maximum Marks: 4 Marks

Data Flow Diagram (DFD):

The following DFD illustrates the data processing steps involved in fabric pattern classification using deep learning. This includes the stages of image input, preprocessing, model inference, and result generation.

1. User uploads fabric image (via web/app interface).

2. Image is preprocessed (resizing, normalization).

3. Processed image is passed to the trained deep learning model.

4. Model classifies the pattern (e.g., floral, plaid, striped).

5. Result is displayed to the user and stored in the database for analytics.

6. Admin can review classifications and update model if needed.

User Stories

Researcher	Model Training	USN-1	As a researcher, I can upload labeled fabric images to train the classification model.	Model accepts training data and
Researcher	Model Monitoring	USN-2	As a researcher, I can monitor training accuracy and loss metrics over time.	Training graphs update in real t
Admin	Model Deployment	USN-3	As an admin, I can deploy a trained model	

			for production inference.	
User	Pattern Classification	USN-4	As a user, I can upload a fabric image and get the pattern classification result.	Pattern and confidence score a
User	Feedback Submission	USN-5	As a user, I can provide feedback if the classification is incorrect.	Feedback is recorded in the sys
Admin	Data Review	USN-6	As an admin, I can review user feedback and retrain the model if necessary.	Admin panel displays feedback
				New model serves user request