

# Project Design Phase-II

## Solution Requirements (Functional & Non-Functional)

Date	31 January 2025
Team ID	
Project Name	Online Payments Fraud Detection Using Machine Learning
Maximum Marks	4 Marks

### Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Transaction Data Input	Capture online payment transaction details
FR-2	Data Preprocessing	Clean and normalize transaction dataset
FR-3	Feature Extraction	Identify fraud-related behavioral patterns
FR-4	ML Model Analysis	Apply Random Forest algorithm to detect fraud
FR-5	Fraud Prediction	Classify transaction as Fraud or Genuine
FR-6	Result Display	Show prediction results to admin/system
FR-7	Model Storage	Save trained ML model for reuse (.pkl)
FR-8	Fraud Alert Generation	Trigger alert when suspicious activity detected
FR-9	Data Logging	Store transaction history for future analysis

### Non-Functional Requirements:

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	System should be easy to operate and user-friendly
NFR-2	Security	Protect sensitive financial transaction data
NFR-3	Reliability	Provide consistent and accurate fraud detection
NFR-4	Performance	Generate predictions quickly for real-time usage
NFR-5	Availability	System should be available whenever transactions occur
NFR-6	Scalability	Handle large volumes of transactions efficiently
NFR-7	Maintainability	Allow future model updates and improvements
NFR-8	Accuracy	Ensure high fraud detection rate with low false alarms