Project Design Phase
Problem – Solution Fit Template

Date	
Team ID	LTVIP2026TMIDS40761
Project Name	Online payments fraud detection using ml
Maximum Marks	2 Marks

Problem – Solution Fit Template:

For our Online Payments Fraud Detection system, we selected the Decision Tree algorithm because it is simple, efficient, and easy to interpret. Decision Tree works by splitting the dataset into branches based on important features such as transaction amount, transaction time, location, frequency, and user behavior patterns. It creates a tree-like structure of decisions that helps in classifying transactions as either Fraudulent or Legitimate.

This algorithm makes sense for our project because fraud detection requires clear decision-making based on multiple conditions. Decision Trees can handle both numerical and categorical data, manage large datasets, and provide fast predictions, which is important for real-time fraud detection. Additionally, the model is easy to visualize and understand, making it suitable for explaining results to stakeholders.

In our system, the Decision Tree model will analyze incoming transaction data, evaluate it based on learned patterns from historical data, and generate a classification output. If the transaction is identified as high risk, the system will trigger an alert or block the transaction; otherwise, it will approve the transaction. This helps ensure accurate, fast, and interpretable fraud detection.

References:

1. https://www.ideahackers.network/problem-solution-fit-canvas/
2. https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe