**Model Development Phase Template**

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| Date | June 2025 |
| Team ID | SWTID1749841176 |
| Project Title | Online Payment Fraud Detection using Machine Learning |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

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| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| step | Represents time step in hours since the beginning of data collection. | Yes | Useful to capture temporal fraud patterns. |
| type | Gives the type of transaction. | Yes | It is a categorical feature. The type of transaction is a strong indicator of fraud. |
| amount | Gives the amount being transacted. | Yes | Used to detect transactions of unusual size. |
| nameOrig | Identifier for the sender. | No | Not useful directly; too granular and might overfit. Consider anonymizing or extracting patterns if needed. |
| oldbalanceOrg | Sender's balance before the transaction. | Yes | Helps to understand the transaction's legitimacy (e.g., insufficient funds). |
| newbalanceOrig | Sender's balance after the transaction. | Yes | Can be used in combination with oldbalanceOrg and amount to detect inconsistencies. |
| nameDest | Identifier for the receiver. | No | Not useful directly; too granular and might overfit. Consider anonymizing or extracting patterns if needed |
| oldbalanceDest | Recipient's balance before the transaction. | Yes | Useful for pattern detection in recipients. |
| newbalanceDest | Recipient's balance after the transaction. | Yes | Useful for pattern detection in recipients. Helps identify suspicious behavior (e.g., recipient balance unchanged). |
| isFraud | Label (target variable). | No | Used only as y during training, not as input. |
| isFlaggedFraud | Whether the transaction was flagged by the system. | No | Leaky feature — if your goal is to predict fraud before the system flags it, this gives away the label. |