Solution Requirements

Online Payments Fraud Detection using Machine Learning

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1. Functional Requirements

ID	Category	Requirement	Priority
FR-01	Input	System shall accept 7 transaction features as input	Must Have
FR-02	Processing	System shall run inference using pre-trained RF model	Must Have
FR-03	Output	System shall return fraud probability (0–100%)	Must Have
FR-04	Output	System shall display verdict: Legitimate or Fraud	Must Have
FR-05	UI	System shall provide a web form for data entry	Must Have
FR-06	UI	Transaction type shall be selectable (not typed manually)	Should Have
FR-07	Nav	User shall be able to test another transaction from result page	Should Have
FR-08	Error	System shall return a user-friendly error on invalid input	Must Have

2. Non-Functional Requirements

2.1 Performance

- Inference response time must be under 2 seconds on standard hardware
- Web page load time must be under 3 seconds on a standard connection

2.2 Reliability

- System must handle all valid numeric inputs without crashing
- Model file (payments.pkl) must load successfully at application startup

2.3 Usability

- Interface must be operable by a non-technical user without documentation
- Transaction type selection must use icons/labels, not numeric codes

2.4 Maintainability

- Codebase must be structured across separate files: app.py + templates/
- Model can be replaced by swapping the .pkl file without code changes