Project Design Phase
Proposed Solution

Date	20 October 2023
Team ID	Team-592699
Project Name	Online payment fraud detection using ML
Maximum Marks	2 Marks

Proposed Solution

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To broaden a strong online payments fraud detection device that successfully addresses the growing challenge of fraudulent transactions in e-commerce. This system have to make use of advanced machine learning getting to know techniques to beautify accuracy and offer real-time detection, ensuing in immediately preventive moves. The final goal is to guard online economic transactions, shield the pursuits of consumers and companies, and uphold trust in virtual charge structures while optimizing the utilization of available statistics and era.
2.	Idea / Solution description	Our online payment fraud detection device, pushed by using advanced Machine Learning techniques which include Decision Trees, Random Forest, SVM, Extra Tree Classifier, and XG Boost, gives actual-time safety for digital transactions. With a person-pleasant Flask interface and IBM Cloud deployment, it ensures available and dependable carrier. Continuous tracking and edition provide on the spot fraud indicators, minimizing financial losses and strengthening believe. This comprehensive solution safeguards the digital financial system, promising secure online transactions for companies and clients alike.

3.	Novelty / Uniqueness	Our online charge fraud detection gadget utilizes present day system getting to know algorithms, such as Decision Trees, Random Forest, SVM, Extra Tree Classifier, and XG Boost, to provide actual-time, rather accurate protection. By continuously monitoring transactions and unexpectedly detecting irregularities, it reduces economic risks for groups and in stills believe in purchasers. With a consumer-friendly Flask interface and IBM Cloud deployment, our solution gives each accessibility and scalability. Its adaptability to emerging fraud patterns guarantees a steady digital economic system, organising it as a strong and forward-questioning device for online charge fraud detection.
4.	Social Impact / Customer Satisfaction	Our online payment fraud detection system significantly enhances customer satisfaction by providing robust financial security and instilling trust in digital payment systems, resulting in reduced economic losses and improved well-being for both businesses and individuals. Additionally, it indirectly contributes to potential environmental benefits, broader economic growth, and advanced data privacy measures, culminating in an overall positive societal impact
5.	Business Model (Revenue Model)	The core business relies on generating revenue through subscription plans, transaction fees, and tiered pricing structures that offer various levels of service. Additional income sources include customized solutions, consulting services, risk assessment reports, and partnerships with payment processors. Flexibility through pay-per-use and event-based billing may cater to businesses with varying transaction volumes. Moreover, providing white-label solutions, data sharing, and add-on services can further boost earnings, while a strong focus on customer relationships and continuous adaptation to market needs is essential for long-term success.

6.	Scalability of the Solution	Scalability in online payment fraud detection is crucial to efficiently handle the growing volume and complexity of online transactions. It involves the ability to scale transaction processing, data ingestion, machine learning models, real-time analysis, geographic expansion, integrations, data storage, auto-scaling, load balancing, monitoring, and security while managing costs effectively.