Project Design Phase-I

Team ID	PNT2022TMID19191
Project Name	Smart Lender-Applicant Credibility Prediction for Loan Approval
Maximum Marks	2 Marks

PROPOSED SOLUTION

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	People approach banks to fulfil their needs via bank loans. This practice has been increasing day by day across the globe, especially for business, education, marriage, agriculture, etc. But several people take advantage and misuse the facilities given by the banks, so banks realise that retaining customers and preventing fraud should be a strategic policy for healthy competition. One of the important factors affecting the economic and financial condition of our country is the credit system operated by banks. Bank credit risk evaluation is recognized in banks all over the world. There are various methods used for risk level calculation. As we know, credit risk assessment is very crucial. Every day, many people apply for loans, but not all of these applicants are trustworthy, and not all can be approved. We heard about many cases where people could not repay the loan amount, causing the bank to suffer a huge loss. So, the main source of income of any bank from its customers is their credit line. By using applied data science techniques and machine learning algorithms, we will check the credit score of the person and predict whether the loan is approved or not. This makes the loan approval process very easy.
2.	Idea / Solution description	● The property documents of the customer need to be submitted and the customer should agree to the terms and conditions of the bank. ● It will Provide captcha security.

		● Automatic calculation of interest rate and repayment date based on loan amount. ● A Machine Learning algorithm is to be used in order to construct a robust and efficient ● software algorithm that classifies individuals based on different characteristics (Gender, Education, Number of Dependents, Marital Status, Employment, Credit Score, Loan Amount, and others) whether they would be eligible for a loan or not. ● Ensemble modelling is the method of running two or more associated but different models and then combining the results into a single score to improve the accuracy of predictive data and data mining applications. ● In machine learning, ensemble methods use several algorithms to get better predictive performance. ● The different ML models that can be used are KNN, Decision tree, Random forest, Xgboost. ● Varies efficient machine learning algorithms can be used to predict the loan eligibility of the customer.
3.	Novelty / Uniqueness	● Provide customer ratings and reviews for understanding the customer. ● Provides data security.The customer details will not be shared to the third party. ● Instant Loan approval status. ● Adding digital signature of the customer on agreement of the terms and conditions. ● The main benefits of Ensemble models are: Better Forecasting ,More Constant model , Better results ,Reduces error. All these factors make the project unique.
4.	Social Impact / Customer Satisfaction	● Nowadays bank play a vital role in the market economy. The success or failure of an organisation largely depends on the industry's ability to evaluate credit risk. Banks have many products to sell in our banking system, but their main source of income is their credit lines.

		● The bank can minimise its Non-Performing Assets by forecasting loan defaulters. ● Secure storage of customer details. ● Easy and fast loan approval process for the customer.
5.	Business Model (Revenue Model)	● The bank can minimise its Non-Performing Assets by forecasting loan defaulters. ● Automation of the loan approval processes opens new financing opportunities for small businesses and individuals. ● They can charge the processing fees and service fees from customers. ● They can generate revenue by referencing.
6.	Scalability of the Solution	● Any type of customer can predict their loan approval without any discrimination. ● This system is easily scalable and efficient. ● It can be provided as software as a service. Both borrower and Lender can use this software.