Project Design Phase-I
Proposed Solution Template

Date	16 October 2022
Team ID	Project-32790-1660212069
Project Name	Smart Lender - Applicant Credibility Prediction for Loan Approval
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Many company wants to automate the loan eligibility process (real-time) based on customer detail provided while filling out online application forms. These details are Gender, Marital Status, Education, number of Dependents, Income, Loan Amount, Credit History, and others. To automate this process, they have provided a dataset to identify the customer segments that are eligible for loan amounts so that they can specifically target these customers.
2.	Idea / Solution description	An efficient Decision Tree is formulated with Decision Tree Induction Algorithm. It produces a model with the most relevant 6 attributes (Job,age,Income,Education,Marital Status,Existing loan).Attribute with rank-1 is placed as the root node of the Decision tree, other attributes from Rank-2 to Rank-6 constitute the intermediate nodes.
3.	Novelty / Uniqueness	Preprocessing of data such as normalization and scaling is not required which reduces the effort in building a model. Any missing value present in the data does not affect a decision tree which is why it is considered a flexible algorithm.
4.	Social Impact / Customer Satisfaction	By using Applicant Credibility Prediction for Loan Approval,the process of loan approval will be more efficient and transparent. Using various algorithms such as Decision tree , Xgboost,Random forest we can easily manage large data of customers and predict loan credibility.

5.	Business Model (Revenue Model)	Credit risk modelling is a technique used by lenders to assess the risk associated with extending credit to a specific application by reviewing a variety of factors, including the applicant's and co-income, applicant's educational background, credit history, and work status. The indicator of a borrower's creditworthiness is credit risk. We can use machine learning algorithms to forecast whether a specific application will be granted a loan or not with the aid of historical data patterns for loans supplied for the applicants.
6.	Scalability of the Solution	This process can be implemented in various banking sector and can be of good use.Numerous instances of computer glitches, content errors, and most crucially, the weight of features, have been resolved in automated prediction systems. As a result, in the near future, the aforementioned "software" may be designed to be more secure, dependable, and dynamically weighted.