Project Initialization and Planning Phase

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| Date | 01 October 2024 |
| Team ID | LTVIP2024TMID24947 |
| Project Title | SmartLender - Applicant Credibility Prediction for Loan Approval |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) report**

The proposal report aims to transform loan approval using machine learning, boosting efficiency and accuracy. It tackles system inefficiencies, promising better operations, reduced risks, and happier customers. Key features include a machine learning-based credit model and real-time decision-making.

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| **Project Overview** | |
| Objective | The primary objective is to revolutionize the loan approval process by implementing advanced machine learning techniques, ensuring faster and more accurate assessments. |
| Scope | The project comprehensively assesses and enhances the loan approval process, incorporating machine learning for a more robust and efficient system. |
| **Problem Statement** | |
| Description | Addressing inaccuracies and inefficiencies in the current loan approval system adversely affects operational efficiency and customer satisfaction. |
| Impact | Solving these issues will result in improved operational efficiency, reduced risks, and an overall enhancement in the lending process, contributing to customer satisfaction and organizational success. |
| **Proposed Solution** | |
| Approach | Employing machine learning techniques to analyze and predict creditworthiness, creating a dynamic and adaptable loan approval system. |
| Key Features | - Implementation of a machine learning-based credit assessment model. |

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|  | * Real-time decision-making for quicker loan approvals. * Continuous learning to adapt to evolving financial landscapes. |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | T4 GPU |
| Memory | RAM specifications | 8 GB |
| Storage | Disk space for data, models, and logs | 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | Flask |
| Libraries | Additional libraries | scikit-learn, pandas, numpy, matplotlib, seaborn |
| Development Environment | IDE | Google colab Notebook, vscode |
| **Data** | | |
| Data | Source, size, format | Kaggle dataset, 4269, csv |