**Project Initialization and Planning Phase**

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| Date | 23 June 2025 |
| Team ID | xxxxxx |
| Project Title | Credit Card Approval Prediction |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) :**

This project proposal presents a machine learning-based solution aimed at addressing the uncertainty individuals face when applying for credit cards. The primary objective is to develop a predictive system that estimates the likelihood of credit card approval based on user-provided inputs such as name, age, employment duration, EMI payments, and the number of ongoing loans. The scope is limited to binary prediction—whether an applicant is likely to be approved or not—without offering deeper analysis or feedback. The problem lies in the lack of an accessible pre-check mechanism, which often leads to confusion, rejection, and wasted time for applicants. Our approach involves training a supervised learning model using historical credit data to identify patterns associated with approval or denial. Key features of the system include a user-friendly input interface and fast, reliable prediction results. The implementation will require basic computing hardware, Python-based software libraries such as sci-kit, and a small team of developers and data analysts. This solution is designed to be efficient, easy to use, and beneficial for customers seeking a quick way to assess their credit card approval chances.

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| **Project Overview** | |
| Objective | The primary objective is to simplify and accelerate the credit card approval process by utilizing machine learning techniques to predict approval outcomes with greater consistency and accuracy. |
| Scope | The project focuses on developing a predictive model that evaluates user-inputted details—such as age, employment status, EMI payments, and existing loans—to determine the likelihood of credit card approval. It aims to assist applicants in checking their chances before applying, without offering recommendations or interfacing with bank systems. |
| **Problem Statement** | |
| Description | Many credit card applicants face uncertainty and repeated rejections due to a lack of clarity about approval criteria. There is no simple tool to assess approval chances beforehand. |
| Impact | By solving this problem, users gain quick insights into their likelihood of approval, reducing unnecessary applications, saving time, and improving their overall experience. |
| **Proposed Solution** | |
| Approach | The system will use supervised machine learning algorithms trained on historical credit data to predict whether a customer is likely to get approved for a credit card. |
| Key Features | * Simple input interface for users to enter personal and financial details * Real-time prediction of credit card approval likelihood * Fast and user-friendly experience without needing banking integration |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | \*\*\*\* |
| 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 |
| Development Environment | IDE, version control | Jupyter Notebook, Git |
| **Data** | | |
| Data | Source, size, format | Kaggle dataset, 69.71 MB, csv |