# Project Initialization and Planning Phase

| | |
|---|---|
| Date | 15 July 2024 |
| Team ID | |
| Project Title | CodeXchange – An AI Powered Code Translator Tool using Palm's chat-bison-001 |
| 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.

| **Project Overview** | |
|---|---|
| Objective | The primary objective is to streamline code translation and facilitate seamless collaboration among developers by leveraging advanced AI techniques for accurate and efficient code conversion. |
| Scope | The project aims to develop a web application that uses AI to translate code snippets between different programming languages, enhancing code reusability and enabling cross-platform development. |
| **Problem Statement** | |
| Description | Developers face challenges when transitioning code between different programming languages, which can hinder productivity and collaboration. These inefficiencies lead to increased development time and potential errors during manual code conversion. |
| Impact | Addressing these issues will improve developer productivity, foster collaboration, and ensure accurate code translation, ultimately enhancing the development process and reducing errors. |
| **Proposed Solution** | |
| Approach | Utilizing AI and natural language processing to translate code snippets accurately between various programming languages, creating a user-friendly interface for developers to interact with the tool. |
| Key Features | • Implementation of an AI-based code translation model.<br>• Support for multiple programming languages.<br>• Real-time code translation for instant feedback.<br>• User-friendly interface for ease of use. |

**Resource Requirements**

| 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 | 512 GB SSD |
| **Software** | | |
| Frameworks | Python frameworks | Streamlit |
| Libraries | Additional libraries | google-generativeai, pandas, numpy, streamlit |
| Development Environment | IDE | Python Script |
| **Data** | | |
| Data | Source, size, format | Code repositories, diverse code samples in various programming languages |