**Project Initialization and Planning Phase**

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| Date | 15 July 2024 |
| Team ID | 740016 |
| Project Title | Revolutionizing Automotive Resale: AI-Driven Prediction of Used Toyota Corolla Car Prices |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) template**

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

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| **Project Overview** | |
| Objective | The primary objective of the project "Revolutionizing Automotive Resale: AI-Driven Prediction of Used Toyota Corolla Car Prices" is to develop an advanced, data-driven prediction model that leverages artificial intelligence and machine learning techniques to accurately estimate the resale prices of used Toyota Corolla cars. |
| Scope | The scope of the project "Revolutionizing Automotive Resale: AI-Driven Prediction of Used Toyota Corolla Car Prices" encompasses the comprehensive process of developing an advanced, data-driven solution for accurate price predictions. This involves gathering data from various sources such as dealership records, online listings, and auction results, and ensuring the data is cleaned and integrated into a unified dataset |
| **Problem Statement** | |
| Description | "Revolutionizing Automotive Resale: AI-Driven Prediction of Used Toyota Corolla Car Prices" is an innovative project aimed at transforming the automotive resale market through the use of advanced artificial intelligence and machine learning techniques. |
| Impact | The "Revolutionizing Automotive Resale: AI-Driven Prediction of Used Toyota Corolla Car Prices" project is poised to significantly impact the automotive resale market by introducing unprecedented accuracy and transparency in price determination. |
| **Proposed Solution** | |
| Approach | The approach for "Revolutionizing Automotive Resale: AI-Driven Prediction of Used Toyota Corolla Car Prices" involves several key steps to develop an accurate and reliable prediction model. Initially, the project will focus on extensive data collection, gathering information from dealership records, online car listings, auction results, and historical resale data. |
| Key Features | **Comprehensive Data Collection:** Gather data from multiple sources including dealership records, online listings, auction results, and market reports.  **Data Cleaning and Integration**: Ensure data consistency by cleaning and integrating diverse datasets, handling missing values and outliers.  **Real-Time Prediction System**: Develop an API-driven system for real-time data input and immediate price predictions. |

**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, version control | Jupyter Notebook, Google Colab |
| **Data** | | |
| Data | Source, size, format | Kaggle dataset, Toyota Corolla, csv |