**Model Development Phase Template**

|  |  |
| --- | --- |
| Date | 15 July 2024 |
| Team ID | 740016 |
| Project Title | Revolutionizing Automotive Resale: AI-Driven Prediction of Used Toyota Corolla Car Prices |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| ID | It used to identify | Yes | ID cards are essential for various reasons, including security, identification, and access control. |
| Model | The used Toyota Corolla price prediction model is an AI-driven tool designed to estimate the market value of pre-owned Toyota Corolla vehicles. | Yes | The used Toyota Corolla price prediction model is developed to address the complexities and dynamics of the used car market |
| Price | The price of a used Toyota Corolla is influenced by a multitude of factors that together determine its market value | Yes | The price of a used Toyota Corolla involves a nuanced evaluation of several critical factors that collectively influence its market value. |
| Age\_08\_04 | The term "Age\_08\_04" typically refers to the age of a vehicle in months, calculated from August 2004 onwards. | Yes | The concept of "Age\_08\_04" is used to denote the age of a vehicle in months, starting from August 2004 onwards. |
| Mfg\_Year | The "Mfg\_year" attribute refers to the specific year in which a vehicle was manufactured by its maker. | Yes | The "Mfg\_year" attribute holds pivotal significance in the automotive industry as it serves as a definitive marker of a vehicle's origin and age |
| KM | Represents the total distance traveled by the vehicle, typically measured in kilometers or miles. | Yes | Kilometers (KM) traveled by a vehicle represent a pivotal metric in the automotive industry, serving as a foundational indicator that impacts various facets of vehicle assessment, market valuation, and consumer decision-making. |
| Fuel Type | Specifies the type of fuel used to power the vehicle, determining its energy source and environmental impact. | Yes | The choice of fuel type for vehicles is a pivotal decision that influences various aspects of automotive technology, market dynamics, and environmental sustainability. |
| HP | Horsepower (HP): A unit of measurement used to quantify the power output of an engine, indicating its ability to perform work over time. | Yes | horsepower (HP) as a crucial metric in the automotive industry revolves around its direct impact on vehicle performance, consumer perception, engineering design, and regulatory compliance. |
| Met Color | a metallic paint finish option available for vehicles, characterized by small metal flakes mixed into the paint to create a reflective and shiny appearance. | Yes | metallic colors (Met Color) for vehicles is driven by several key factors that cater to consumer preferences, aesthetic appeal, and market dynamics within the automotive industry. |
| Powered windows | Refers to windows in a vehicle that can be electronically opened or closed using controls typically located on the door panel. | Yes | The inclusion of powered windows in vehicles is driven by a combination of convenience, safety, accessibility, and market demand. |
| Power Steering | A system in vehicles that assists the driver in steering the vehicle by using hydraulic or electric power to reduce the effort needed to turn the steering wheel. | Yes | power steering in vehicles is grounded in several key factors that enhance driver comfort, vehicle maneuverability, safety, and overall market competitiveness. |
| Radio | The radio in a vehicle serves as a central entertainment and information hub, providing drivers with access to music, news, and other content while on the road. | Yes | The inclusion of a radio in vehicles is grounded in its fundamental role in enhancing driver and passenger experience through entertainment, information access, and connectivity. |
| Sport Model | A variant of a vehicle model specifically designed and equipped to emphasize performance, handling, and aesthetic enhancements over standard models. | Yes | sport model within a vehicle lineup centers on catering to consumers who prioritize enhanced performance, dynamic driving experiences, and distinctive styling. |
| Backseat Divider | A partition or barrier installed in the rear seating area of a vehicle to separate the passenger compartment from the cargo area. | Yes | The reasoning behind incorporating a backseat divider into vehicles revolves around enhancing both practicality and comfort for passengers and cargo. |
| Parking assistant | A technology integrated into vehicles to assist drivers in parking maneuvers, particularly in tight spaces or parallel parking situations. | Yes | The reasoning behind integrating a parking assistant into vehicles is cantered on addressing challenges associated with parking in modern urban environments and enhancing overall driver convenience, safety, and vehicle usability. |
| Tow Bar | A device mounted on a vehicle's rear chassis that enables it to tow trailers, caravans, or other vehicles. | Yes | The reasoning behind equipping vehicles with a tow bar revolves around enhancing their versatility and utility, enabling them to tow trailers, caravans, boats, or other loads. |