A Major Project Synopsis on

**Car Data Analysis**

Submitted to Manipal University, Jaipur

Towards the partial fulfillment for the Award of the Degree of

**MASTER OF COMPUTER APPLICATIONS**

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by

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**I. Introduction**

The used car market in India is highly dynamic, with prices influenced by various factors such as brand, model, mileage, condition, fuel type, and transmission. Buyers and sellers often struggle to determine the right price, leading to inefficiencies in transactions. This project aims to analyse historical car sales data to extract insights and trends that can help stakeholders make informed decisions.

**II. Motivation**

Our analysis will help both buyers and sellers in the used car market by providing data-driven insights.

1. **For Sellers:**

* Determine competitive pricing for faster sales.
* Avoid financial losses due to incorrect pricing.
* Use data-backed strategies to improve sales outcomes.

2. **For Buyers:**

* Identify fair deals based on historical data.
* Reduce the chances of overpaying for a vehicle.
* Make informed decisions through visualized data insights.

**III. Problem Statement**

Pricing in the used car market is often inconsistent and influenced by multiple factors. Sellers may overprice or underprice their vehicles, leading to prolonged sales cycles or financial losses. Buyers also face challenges in identifying fair deals. A systematic, data-driven approach is necessary to analyse trends and provide actionable insights.

A diagram of data processing

AI-generated content may be incorrect.**IV. Methodology / Planning of Work**

1. **Data Collection**

* Acquiring historical used car sales data through web scraping.
* Gathering structured datasets from reliable sources.

2. **Data Cleaning & Preprocessing**

* Handling missing values, outliers, and inconsistencies.
* Standardizing variables for accurate comparisons.

3. **Exploratory Data Analysis (EDA)**

* Identifying patterns and correlations in the dataset.
* Understanding the impact of different features on pricing.

4. **Data Storage and Management**

* Using MySQL for structured data storage.
* Efficient querying and handling of large-scale data.

5. **Visualization & Insights**

* Creating interactive dashboards using Power BI.
* Generating reports for stakeholders to understand market trends.

6. **Final Report & Conclusions**

* Summarizing findings and recommendations.
* Providing actionable insights for buyers and sellers.

**V. E-R DIAGRAM**

**A computer screen shot of a diagram

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**VI. Requirements for Proposed Work**

**1.Software Requirements**

• **Operating System**: Windows, Linux

• **User Interface**: Power BI for data visualization

• **Database**: MySQL for data storage

• **Programming Language**: Python for data analysis

**2. Hardware Requirements**

• **Processor**: Pentium-based systems with a minimum of P4

• **RAM**: 256MB (minimum)

• **Hard Disk**: 10 GB Hard Disk Space

**VII. Bibliography / References**

1. Kaggle Datasets: [Used Car Price Dataset](https://www.kaggle.com/)

2. Power BI Documentation: [Power BI Reports](https://docs.microsoft.com/en-us/power-bi/)

3. MySQL Official Documentation: [MySQL Reference Manual](https://dev.mysql.com/doc/)

4. Python Web Scraping: [BeautifulSoup & Scrapy Documentation](https://www.crummy.com/software/BeautifulSoup/)