Car Price Prediction with Online Buying and Selling System

Onkar Deshmukh[1] Salman Shaikh[1] Onkar Antad[1] Rushikesh Gaikwad[1] Nikhil Koli[1] S.S. Bhuite[2]
Department of Computer Engineering BMIT, Solapur.

1. Abstract:

The main aim of this project is to create a Web application that is helpful while selling cars, buying cars and predicting car price.

In the existing System it is difficult to maintain the car information individually and to supply for the customers who are eager to buy and sell them. Customer has to face difficulty in order to know the information of car like manufacturing year, car model and other valuable information in a single domain. Our main idea is to develop a system where we can have all the required information for the user in order to effectively interest him in the process of buying, selling and predicting a car.

In the Proposed System, Web application can maintain car details like manufacturer, year of manufacturing, price and model etc. We can also view all the car details which are kept for sale effectively and we can search for our desired car. With this Customer can get the information quickly like car details which have been entered clearly.

This application mainly consists of 5 modules: user module, admin module, dealer module, viewing all cars module, adding cars module.

Keywords: HTML-5, CSS-3, JAVA-SCRIPT, DJANGO, ML, MY-SQL

2. Introduction:

Car price prediction is somehow interesting and popular problem. As per information that was gotten from the Agency for Statistics of BiH, 921.456 vehicles were registered in 2014 from which 84% of them are cars for personal usage this number is increased by 2.7% since 2013 and it is likely that this trend will continue, and the number of cars will increase in future. This adds additional significance to the problem of the car price prediction.

Accurate car price prediction involves expert knowledge, because price usually depends on many distinctive features and factors. Typically, most significant ones are brand and model, age, horsepower and mileage. The fuel type used in the car as well as fuel consumption per mile highly affect price of a car due to a frequent changes in the price of a fuel. Different features like exterior color, door number, type of transmission, dimensions, safety, air condition, interior, whether it has navigation or not will also influence the car price. In this paper, we applied different methods and techniques in order to achieve higher precision of the used car price prediction.

This paper is organized in the following manner: Section II contains related work in the field of price prediction of used cars. In section III, the research methodology of our study is explain. Section IV elaborates various machine learning algorithms and examine their respective performances to predict the price of the used cars. Finally, in section V, a conclusion of our work are given, together with the future works plan.

3 Problem Statement:

To develop a User Friendly Environment to Predict Accurate Price of a Car, So that Customers can easily sell and Buy Cars.

4. Overall Scenario:

❖any member can register and view available products.

❖Only registered members can purchase multiple products regardless of quantity.

❖Contact us page is available to contact Admin for queries.

❖there are three roles available: Visitor, User, and Admin.

-Visitors can view available products.

-Users can view and purchase products.

-An Admin has some extra privileges including all privileges of visitor and user.

○Admin can add products, edit product information and add/remove products.

○Admin can add users, edit user information, and can remove users.

○Admin can ship orders to the user based on orders placed by sending confirmation mail & SMS.

5. Requirement Specification:

1. Software Requirements:

OS Windows \ any other equivalent OS, XAMP control panel, HTML-5, CSS-3, JS visual studio code, apache, Browser (Chrome, Mozilla, Firefox, Explorer…..etc.)

2. Hardware Requirements:

HDD: Min-256GB

RAM: Min-2GB

6. Technology & Language used

In our project we are going to work on Python Django Framework Technology by using Front End HTML-5, CSS-3 & JavaScript with the Python as Back End Language and Machine Learning for Predicting Car's Price.

7. Django Framework:

Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It's free and open source.

8. HTML-5:

HTML5 is a markup language used for structuring and presenting content on the World Wide Web. It is the fifth and last major HTML version that is a World Wide Web Consortium recommendation. The current specification is known as the HTML Living Standard.

Why use 000WebHost?

The flexibility and power of 000WebHost enable businesses that are technology-based to reach the marketplaces with a limited initial investment. It also allows them to use a subscription model to scale their IT infrastructure. But, the advantages that the so ware offers extend to small, medium, and large companies, and some of these are shared below.

9. Cascading Style Sheets (CSS):

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics; enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, which reduces complexity and repetition in the structural content; and enable the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device

The name cascading comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable.

Why use MySQL?

● MySQL is a relational database management system (RDBMS) based on the SQL (Structured Query Language) queries. It is one of the most popular languages for accessing and managing the records in the table. MySQL is open-source and free software under the GNU license. Oracle Company supports it

● MySQL is a relational database management system. This database language is based on the SQL queries to access and manage the records of the table.

● MySQL is easy to use. We have to get only the basic knowledge of SQL. We can build and interact with MySQL by using only a few simple SQL statements.

● MySQL follows the working of a client/server architecture. There is a database server (MySQL) and arbitrarily many clients (application programs), which communicate with the server; that is, they can query data, save changes, etc.

● MySQL supports multi-threading that makes it easily scalable. It can handle almost any amount of data, up to as much as 50 million rows or more. The default file size limit is about 4 GB. However, we can increase this number to a theoretical limit of 8 TB.

Pros and Cons of MySQL:

MySQL has a lot of pros or advantages. Apart from the advantages, it has disadvantages too. Let's take a look at these advantages and disadvantages:

Pros:

 MySQL is a relational database management system.

 MySQL is easy to use.

 MySQL follows the working of a client/server architecture

 MySQL supports multi-threading that makes it easily scalable.

 Its efficiency is high because it has a very low memory leakage problem.

Cons:

 MySQL does not support a very large database size as efficiently.

 MySQL does not support ROLE, COMMIT, and Stored procedures in versions less than 5.0.

 Transactions are not handled very efficiently.

 There are a few stability issues.

 It suffers from poor performance scaling.

10. Machine Learning

Why Machine Learning:

In our Project we will use machine learning for predicting car price on the basis of year of manufacture, how many owners mileage, fuel-type and transmission

Simply put, machine learning allows the user to feed a computer algorithm an immense amount of data and have the computer analyze and make data-driven recommendations and decisions based on only the input data. If any corrections are identified, the algorithm can incorporate that information to improve its future decision making.

Data is the lifeblood of all business. Data-driven decisions increasingly make the difference between keeping up with competition and falling further behind. Machine learning can be the key to unlocking the value of corporate and customer data and enacting decisions that keep a company ahead of the competition.
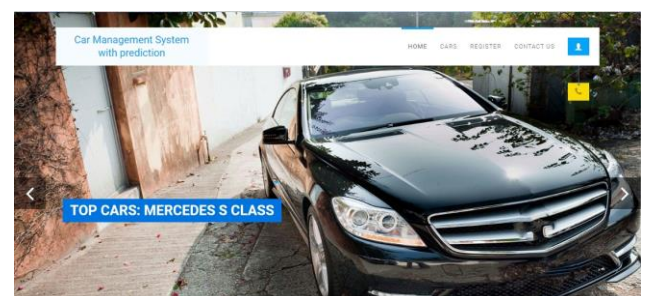
The Admin manages the all of the users available in the system. Admin has the all authorization to manage the database

and system.

Admin can add products, edit product information and add/remove products. Admin can add users, edit user information, and can remove users.
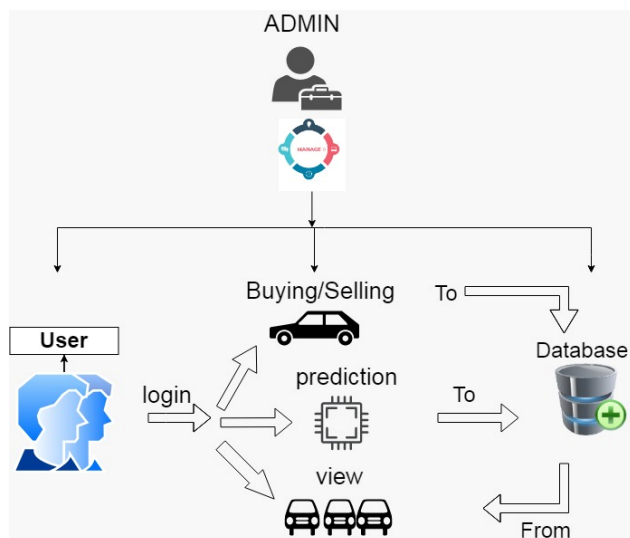

The User can only interact with the function given by the admin. Visitors can view available products. Users can view and purchase products. User can buy and the sell the cars.

Architecture Diagram:

12. SCOPE & FUTURE WORK

To be able to predict used cars market value can help both buyers and sellers.

Used car sellers (dealers): They are one of the biggest target group that can be interested in results of this study. If used car sellers better understand what makes a car desirable, what the important features are for a used car, then they may consider this knowledge and offer a better service.

Online pricing services: There are websites that offers an estimate value of a car. They may have a good prediction model. However, having a second model may help them to give a better prediction to their users. Therefore, the model developed in this study may help online web services that tells a used car's market value.

Individuals: There are lots of individuals who are interested in the used car market at some points in their life because they wanted to sell their car or buy a used car. In this process, it's a big corner to pay too much or sell less than its market value.

13. CONCLUSION:

The increased prices of new cars and the financial incapability of the customers to buy them, Used Car sales are on a global increase. Therefore, there is an urgent need for a Used Car Price Prediction system which effectively determines the worthiness of the car using a variety of features. The proposed system will help to determine the accurate price of used car price prediction.

14. REFERENCES:

- https://docs.djangoproject.com/en/4.0
- https://www.w3schools.com/
- https://developer.mozilla.org/en-US/docs/Web/HTML
- https://www.w3.org/Style/CSS/Overview.en.html
- https://stackoverflow.com
- https://www.youtube.com