K S R Institute for Engineering and Technology,

Tiruchengode - 637215

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CAR RESALE VALUE PREDICTION

- MEMBERS:
- ASHWIN M (731619104007)
- MANORANJITH G (731619104031)
- MOHANAPRASATH M(731619104035)
- PRABHU M (731619104041)

- Guided by,
  Mrs.A.SUHANA , AP/CSE
  KSRIET

AIMS AND OBJECTIVES

- Car resale value prediction system is made with the purpose of predicting the correct valuation of used cars that helps users to sell the car remotely with perfect valuation and without human intervention in the process to eliminate biased valuation.
- Due to limited data, system only takes into account limited features for predicting the resale value of the car.
- Since this is an online system, current system does not take into account any physical damage to the car body or engine while predicting the resale value.
- The new system developed by us consists of two parts - Data gathering and Prediction using Machine Learning based algorithms.
- We have used web scraping libraries to gather data from the web pages of cars24 website.
- The script runs and captures data from the HTML div mentioned in the code via URL. URL should be entered by the user.
- The second part is the web-based car resale value prediction. We have trained a boosting algorithm-based ML model using data from the previous step after preprocessing and cleaning.
- The trained model is used for prediction. The front-end form asks users to fill values which are required for the ML model to make prediction IE- city, kms driven, year of purchase and fuel type.

ABSTRACT

Used car resale market in India was marked at 24.2 billion US dollars in 2019. Due to the huge requirement of used cars and lack of experts who can determine the correct valuation, there is an utmost need of bridging this gap between sellers and buyers. This project focuses on building a system that can accurately predict a resale value of the car based on minimal features like kms driven, year of purchase etc. without manual or human interference and hence it remains unbiased

The Existing System

Using various machine learning algorithms we will predict the price. The algorithms involve Ridge Regression and Lasso Regression. The best model which predicts the most accurate price is selected. After selection of the best model the predicted price is displayed to the user according to user’s inputs. User can give input through website to for used car price prediction to machine learning model.

DISADVANTAGES

1.Not made to order

When you buy a new car, it's made to order. You have the option of picking the colour, the features, whether or not you want a sunroof, and more. When you buy a used car, you get what you pay for. If the car has a crappy radio, you'll have to deal with it or pay to have it replaced.

2.Little to No Warranty

When you buy used cars, they are usually sold "as-is." This means that any issues it may have are completely your responsibility. If you buy the car, take it to get gas, and the battery dies, you have to purchase a new battery. Some dealerships will provide warranties, but they are usually very limited.

3.Worse Fuel Efficiency

One of the biggest selling points when choosing a car is how many miles per gallon it can get for both freeway and city driving. Every year, the number increases with new models and now some cars get an impressive 30 or 40 miles per gallon (mpg). When you purchase a used car, you're not guaranteed to get a vehicle that gets over 20 or 25 mpg—although this will depend on the make and model.

The Proposed System

There are two primary phases in the system: 1. Training phase: The system is trained by using the data in the data set and fits a model (line/curve) based on the algorithm chosen accordingly. 2. Testing phase: the system is provided with the inputs and is tested for its working. The accuracy is checked. And therefore, the data that is used to train the model or test it, has to be appropriate. The system is designed to detect and predict price of used car and hence appropriate algorithms must be used to do the two different tasks. Before the algorithms are selected for further use, different algorithms were compared for its accuracy. The well-suited one for the task was chosen.

Advantages :

1.Cost is less

Used cars are exponentially more affordable than buying a new vehicle.

2.Lower Insurance Rates

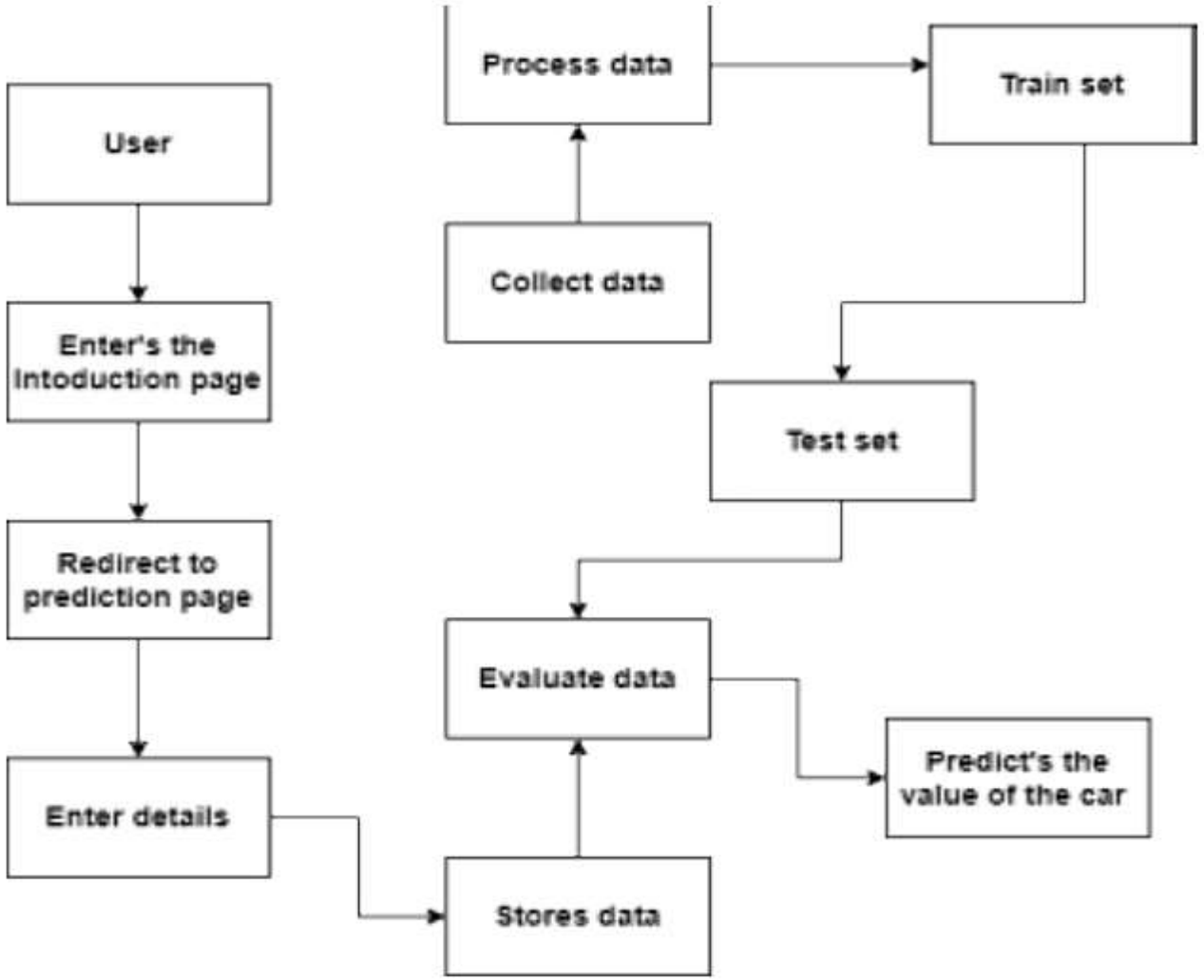
Another lesser known fact is that car insurance costs less per month for a used car, than a new car. So the savings of buying a used car is evident on a monthly basis in the form of the monthly premium in addition to the sticker price.

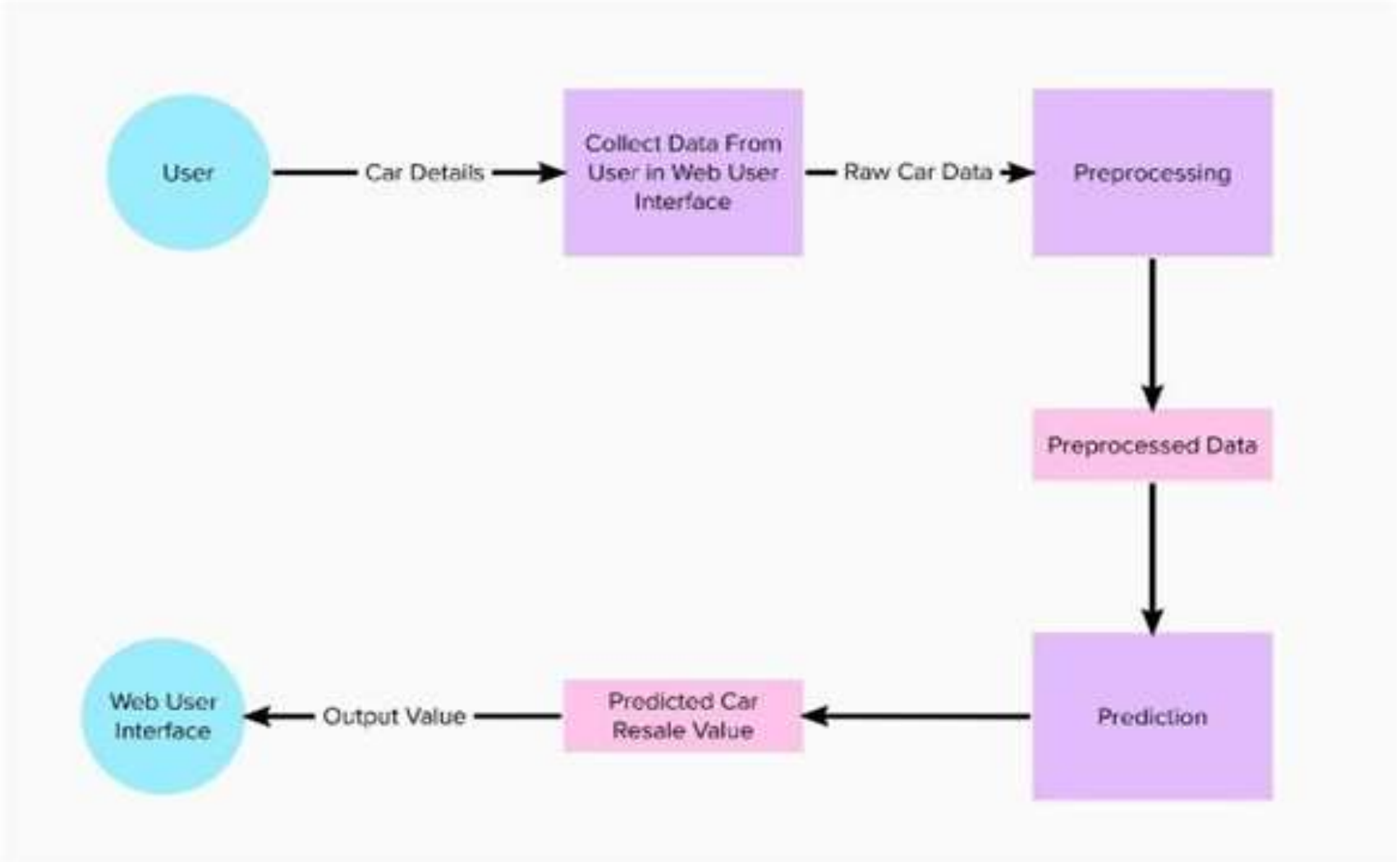
3.Many Used Cars Include a Warranty

One of the most common questions about buying a used car is about warranty. Many used cars are still under factory warranty. Most people who lease a car, turn it back in after three years, and still have 2 years left on its 5 year warranty.

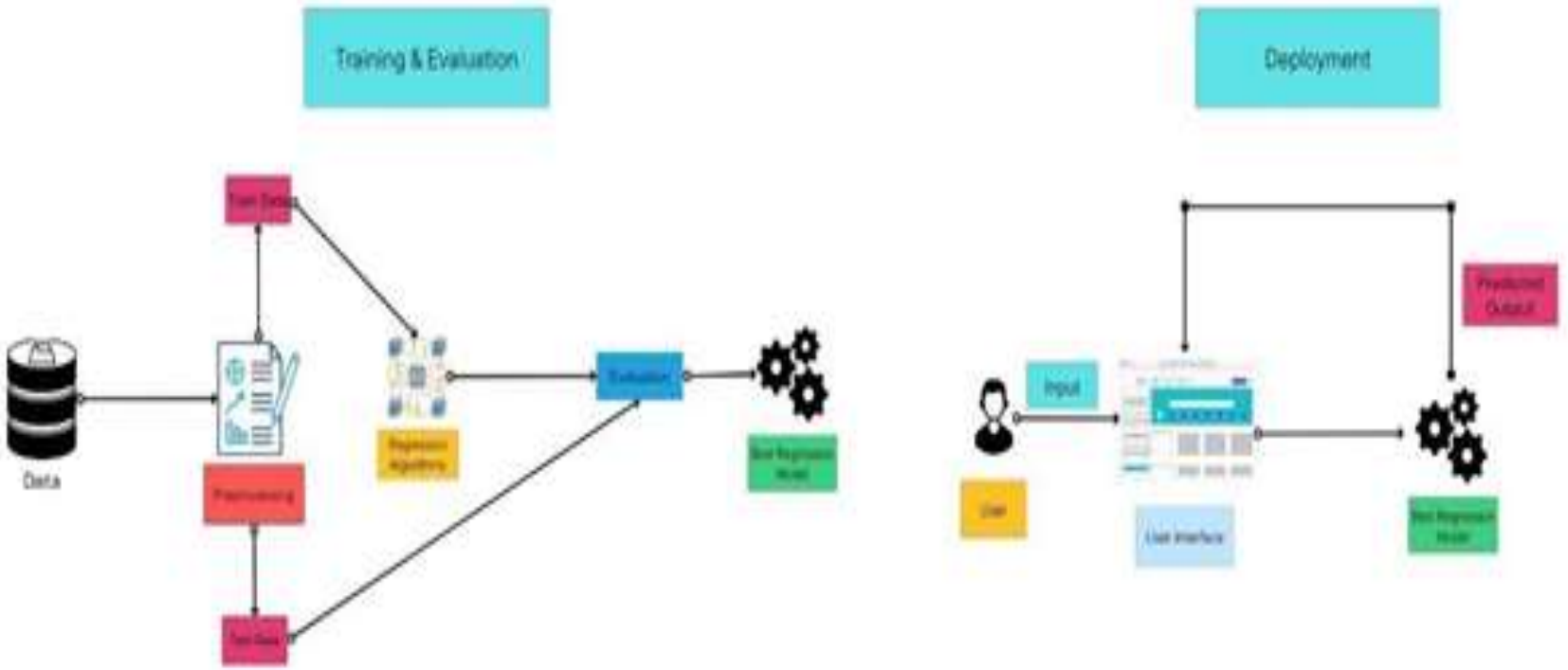
PROJECT DESIGN

DATA FLOW DIAGRAMS

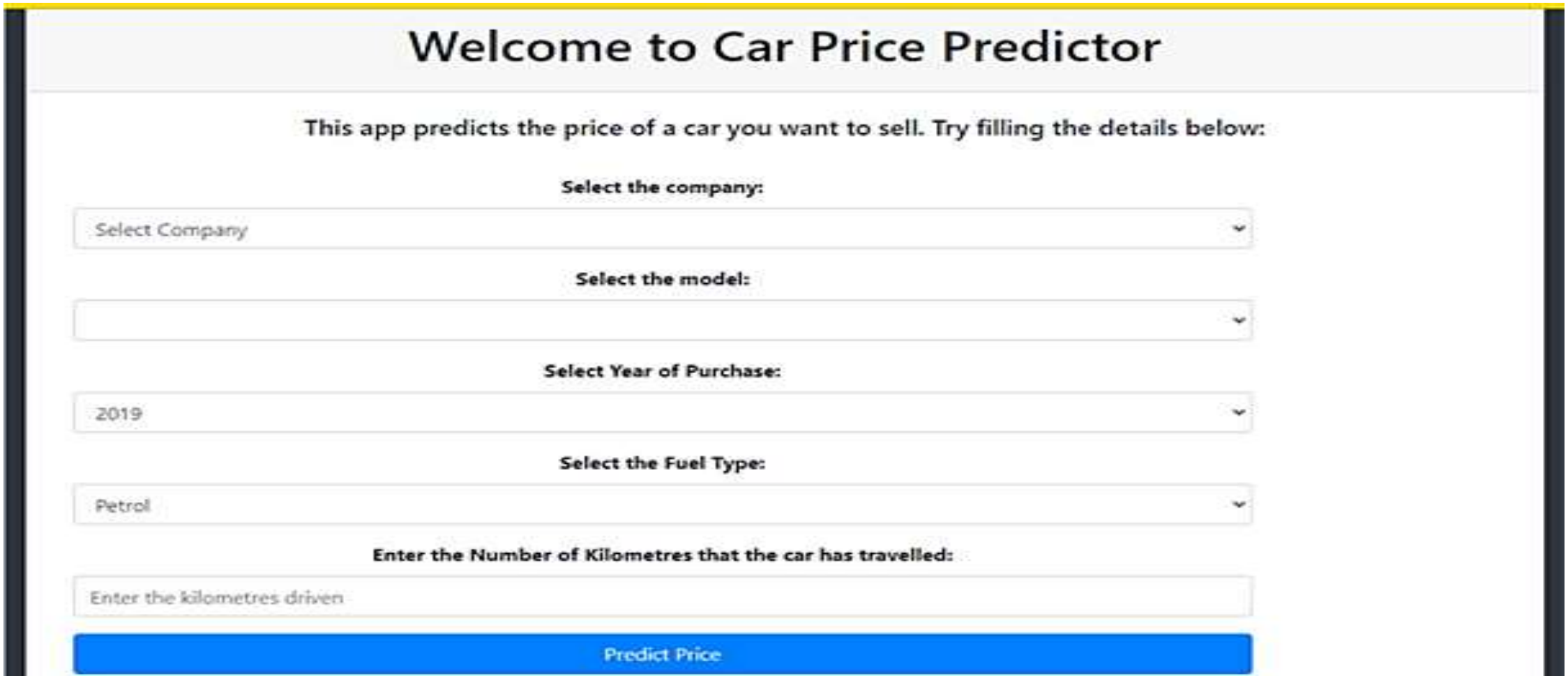



User
Car Details
Collect Data From User in Web User Interface
Raw Car Data
Preprocessing
Preprocessed Data
Prediction
Predicted Car Resale Value
Output Value
Web User Interface

SOLUTION AND TECHNICALARCHITECTURE



RESULT


Welcome to Car Price Predictor
This app predicts the price of a car you want to sell. Try filling the details below:
Select the company:
Select Company
Select the model:
Select Year of Purchase:
2019
Select the Fuel Type:
Petrol
Enter the Number of Kilometres that the car has travelled:
Enter the kilometres driven
Predict Price

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. Car price prediction can be a challenging task due to the high number of attributes that should be considered for the accurate prediction. The major step in the prediction process is collection and preprocessing of the data. In this research, PHP scripts were built to normalize, standardize and clean data to avoid unnecessary noise for machine learning algorithms. Data cleaning is one of the processes that increases prediction performance, yet insufficient for the cases of complex data sets as the one in this research. Applying single machine algorithm on the data set accuracy was less than 50%. Therefore, the ensemble of multiple machine learning algorithms has been proposed and this combination of ML methods gains accuracy of 92.38%. This is significant improvement compared to single machine learning method approach.

Thank You All