# Exotic Car Hack

## Objective: -

Car prices have always been fluctuating and most people correctly don't know how to sell or buy a new car. But there are some car dealers / auto investors who used this term called as "CAR HACK" to buy/ sell a car. The meaning of this term is – you buy a car for a low price and sell in for a high price (gaining the profit from the investment). This is also be helpful when you want to buy a car for yourself. The main goal of this project is to *design a system that can car hack every car present in the market and let you know weather buying that car is a legal steal/ make you bankrupt*. This technique is more often used for buying exotic cars (sports cars, luxury sedans, SUV's, MUV's) since they are priced at high price and people often can't correctly judge the price of them. In this project, I am hacking my favourite car Ford Mustang GT (all models, years and options).

There are two options available in this: -

1) For buying: - A user can input the details of car he/she want to buy and their current pin code/ location. This allows the user to choose the number of miles he wants the car to be so that he can go and pick it up.

2) For selling: - A user can get an estimate price of their car and sell it based on the estimate (price is quoted based on the year, model, mpg, transmission, engine type, engine capacity).

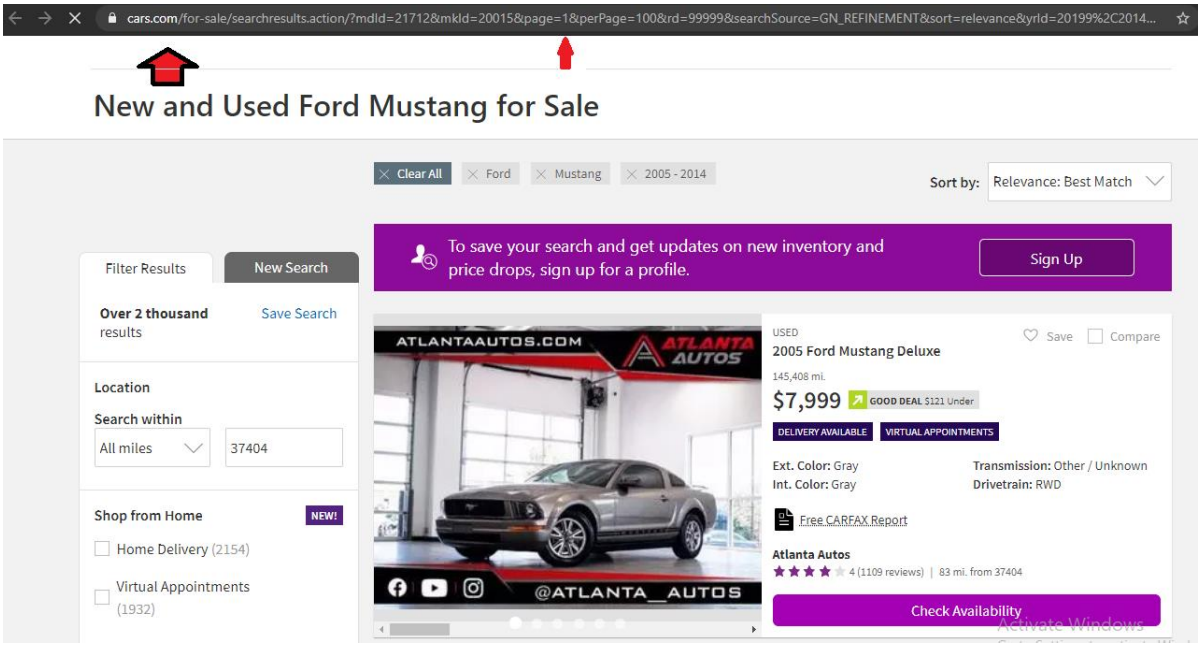
## Source credits: -

All the credits go to cars.com for having such a wonderful debase of each and every car. This helped me to collect all the data that I needed. Thank you @cars.com

## Data Collection: -

### Website link: -

For the data collection process, we need to find the location where the data is present and the unique value all the cars have. The picture below will make it clear for you.

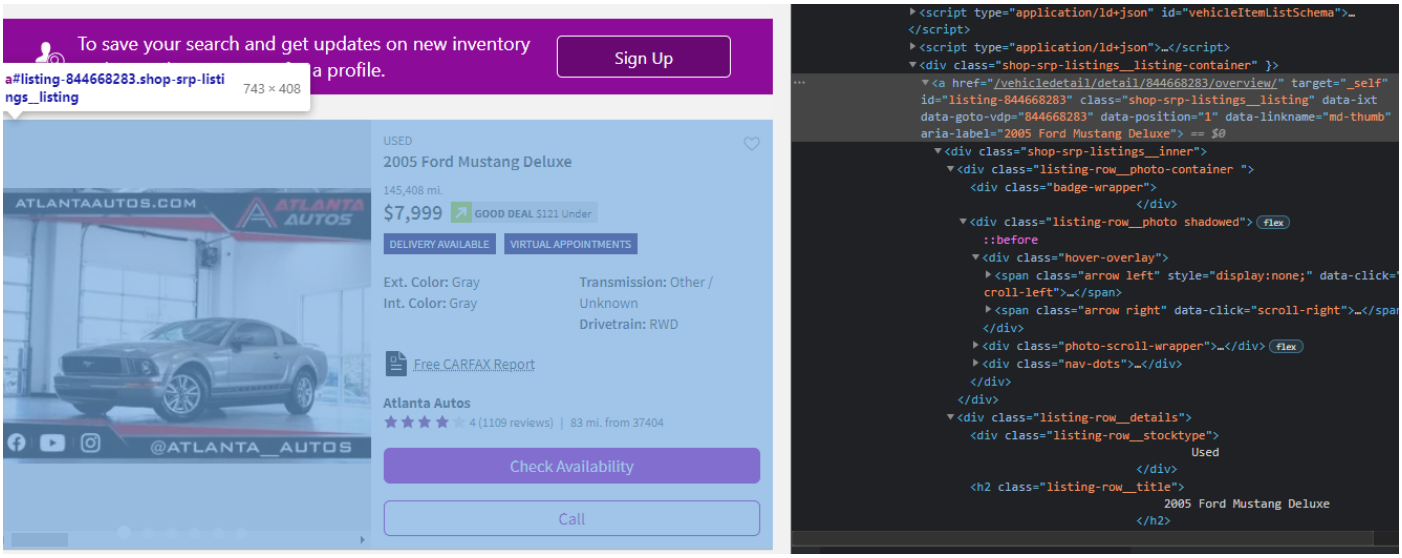


The link is shown in the big red arrow and this page contains 100 mustang cars in the year between 2005 and 2015. If you can see, there is another small arrow in the page. This lets us iterate through all the pages that is present in the given model years.

**Unique Values: -**

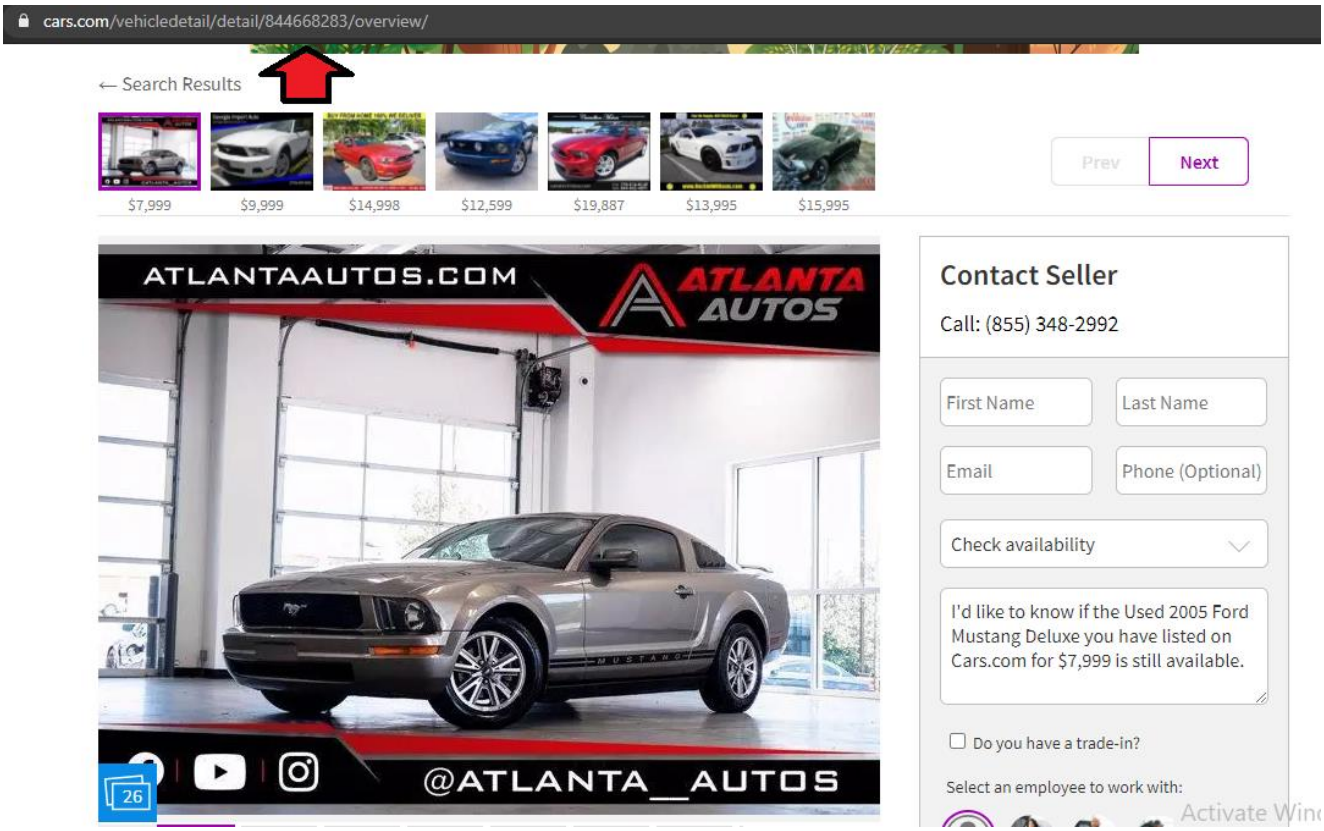
*Now, the question is how can I get the unique vehicle id for each vehicle?*

It is simple to scrape that in the main webpage itself. When we inspect the single car present in the page, we can see a href link that contains the id and the link lo particular car. We can scrape that link for all the 100 cars present in a single page. This makes out process simple.




**Getting Cars data: -**

As seen above, after getting the unique values is quite simple from next on. We can iterate though all the links that we got, collect the data from the links and make it a data frame and the combine all the data frames to form a single file. The only task here is to collect the base link of each model.



**Problem: -**

As per the page numbers that I have given to the system, I should have collected almost 19,700 cars data. But the model collected around 15,000 and out of those there are many duplicate values present in the collected data.

More updates coming after the next process.