**Project 4: Car Price Prediction Project**

**Group 8: “Keeping it Wheel”**

**Team Members:**

* Ashley M
* Maheen A
* Hassan M
* Colleen K
* Diana L
* Elena O
* Vertta M
* Vinika P

**Project Description/Outline:**

1. New job, looking for a new car to buy, based on his income (10-15% of salary car payment), what can he afford a year into his job. Based on 60k salary
   1. After reviewing this car price prediction guide, you may discover that buying a car is within your reach after all!
   2. It is important to be realistic and know what is affordable for you. STUDENT knows she can’t quite afford the cost of a Ferrari right now, but she plans to use the first car she does buy as an opportunity to responsibly start managing her finances — which is a huge step toward eventually buying that dream car.
   3. What Car Should I Get?
      1. To answer this question, consider how well the models in your price range meet your needs. How many people can they hold? How do they drive? How's the fuel economy? What safety features do they have? How much cargo can they hold? Do they offer "must-have" features such as Apple CarPlay, a sunroof or leather seats? Is there a possibility for resale
2. Which car model is the most economical?
3. Which state/location would have a better deal on the Car of our client’s liking.
4. What/how do manufacturer/ production year/ fuel type/ interior play in the price?
5. Based on average income, what cars are most likely to be purchased?

**Components**:

1. Unsupervised Learning Model

* Maheen
* Ashley
* Hassan

1. Pandas-Cleaning-

* Maheen
* Ashley
* Hassan
* Vinika

1. Matplotlib/Tableau

* Elena
* Diana

1. SQL database

* Colleen
* Maheen
* Ashley
* Vertta

1. HTML/CSS/Bootstrap -Optional
2. JavaScript Plotly/Leaflet -Optional
3. Powerpoint Presentation

* Vinika
* Elena
* Vertta

**Datasets/Sources:**

* <https://www.moneyunder30.com/how-much-car-can-you-afford>
* <https://www.businesswire.com/news/home/20220824005118/en/Cost-of-Car-Ownership-in-the-U.S.-Increases-5-as-the-Average-American-Household-Now-Spends-Over-600-a-Month-on-Auto-Loans-and-Insurance-Combined>
* <https://www.kaggle.com/datasets/deepcontractor/car-price-prediction-challenge>
* <https://thecleverprogrammer.com/2021/08/04/car-price-prediction-with-machine-learning/>
* <https://fred.stlouisfed.org/release/tables?rid=110&eid=257197>

**Sketch of Proposed Data Visualization:**

Buying a car for the first time can be stressful for anyone especially if you’re a recent college graduate. We’re trying to predict car prices for our client. We would be performing Unsupervised ML to our Datasets. We would fit the model, train and predict the model using unsupervised algorithms. We would be using Jupyter notebook, python, pandas for cleaning and SQL database as our data retrieval source in our ETL process.