

IT452 PROJECT REPORT

Car Purchase Price Analysis

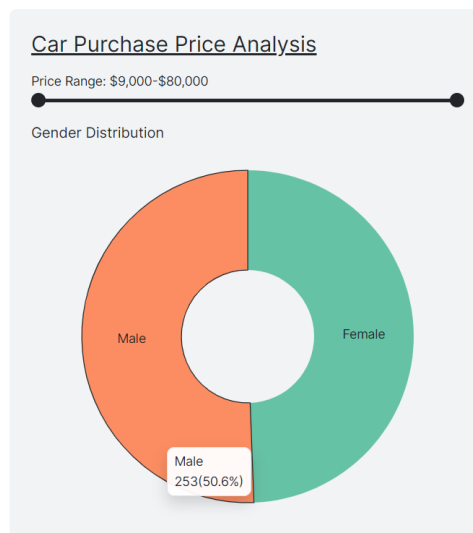
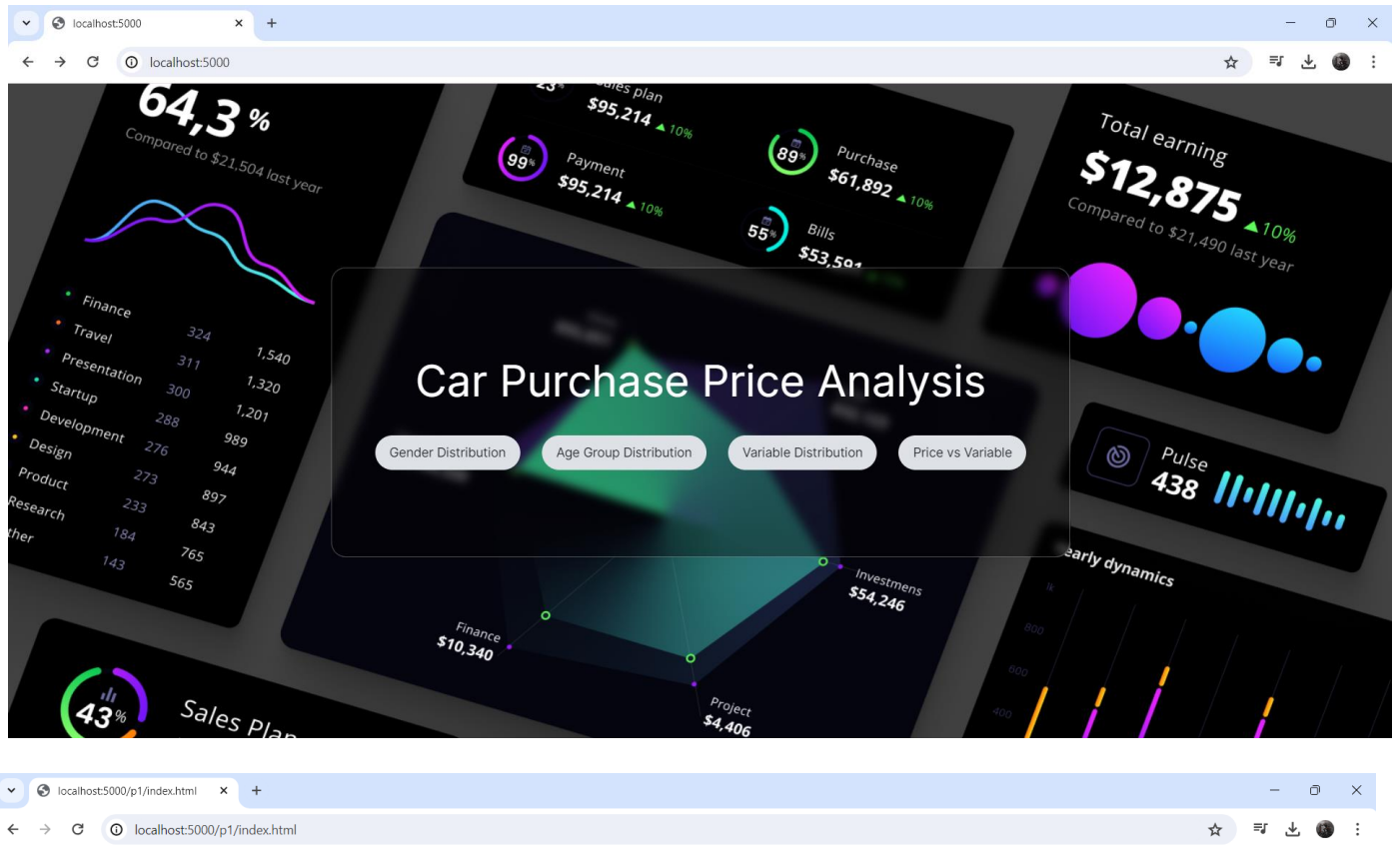
In the realm of automotive economics, analyzing car purchase prices is pivotal for both consumers and industry players. This analysis typically involves examining various factors such as brand, model, market trends, and economic conditions that influence the final selling price of vehicles. It also considers depreciation rates, which can vary significantly across different makes and models. For buyers, understanding these factors can lead to more informed decisions, potentially saving money and optimizing the value received. Conversely, for sellers and manufacturers, price analysis is crucial for setting competitive prices and strategizing marketing efforts to maximize profit and market share. Overall, car purchase price analysis not only aids in financial planning but also helps in predicting future market dynamics.

Tool Sources

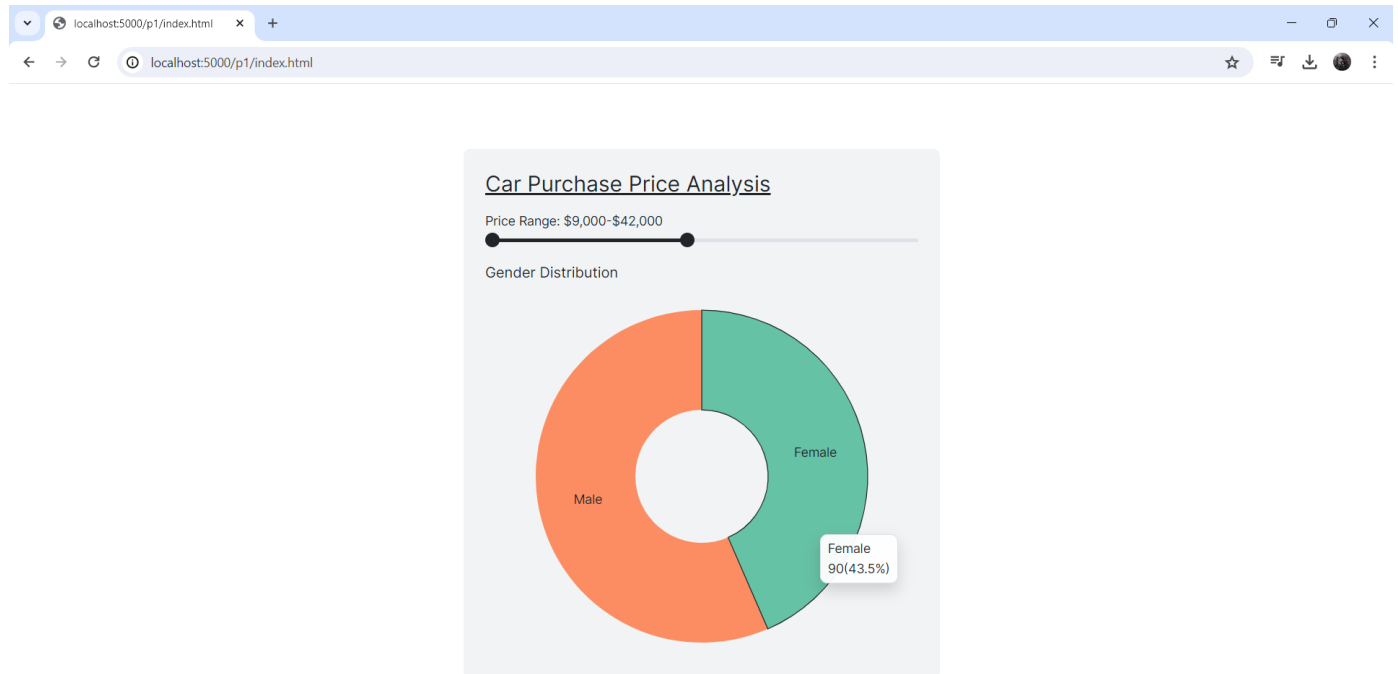
- Node, js
- VScode
- D3.js version 7

Implementation requirements.

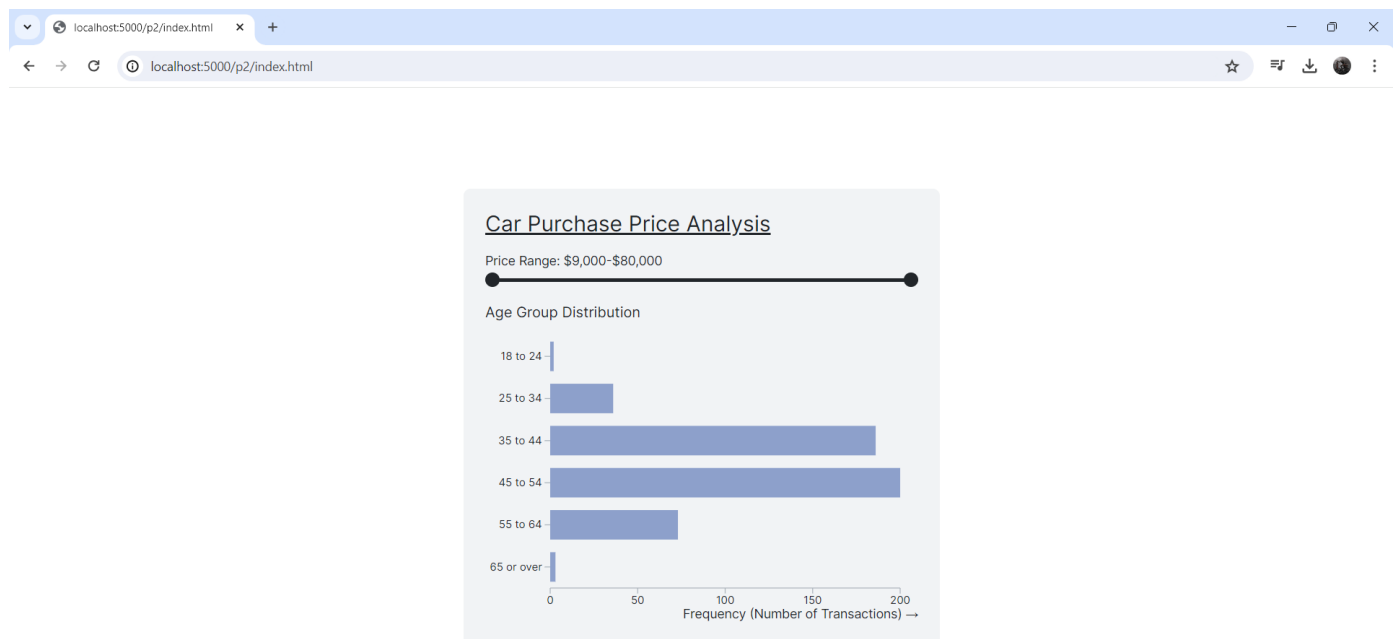
- VSCode Setup
- Node.js Setup version 16.15.0
- D3.js version 7



In the "Car Purchase Price Analysis" project, pie charts are used to show the distribution of car buyers by gender.

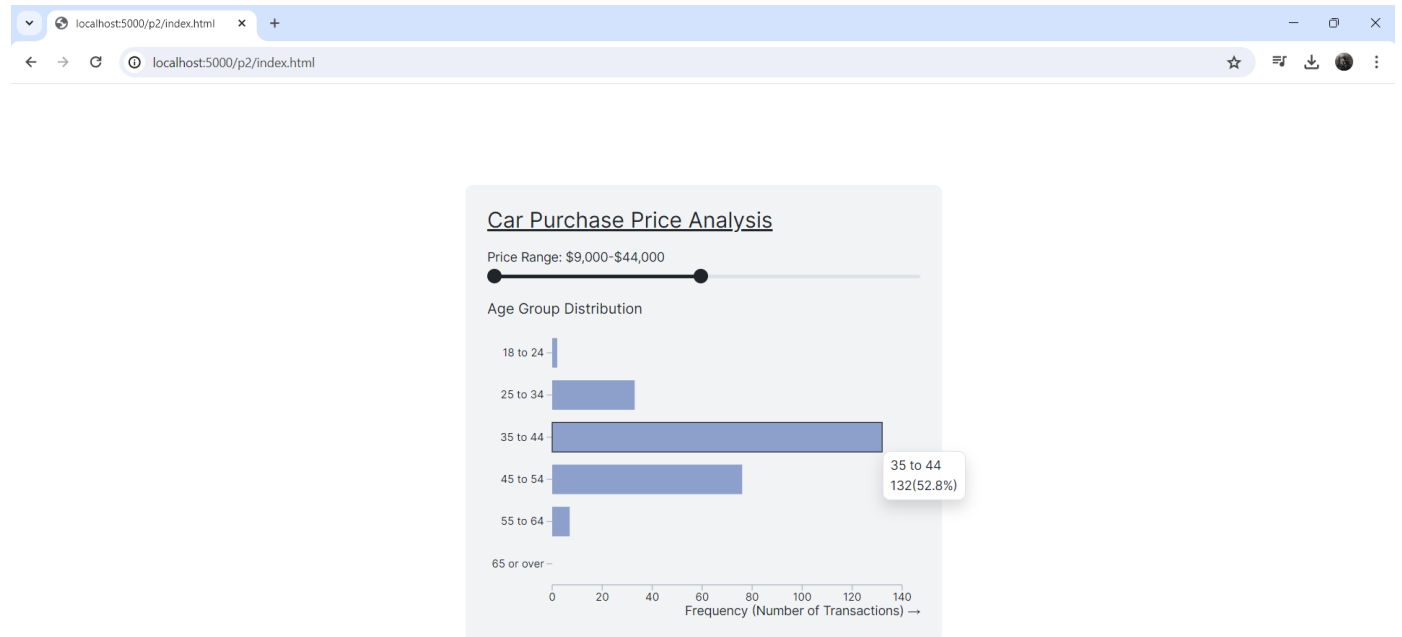


These charts make it easy to see the proportion of male and female buyers and how each group prefers different car price ranges. The pie charts adjust dynamically, meaning they change to show data for different price ranges of cars. This helps illustrate how preferences for car purchases might vary between cheaper and more expensive options.

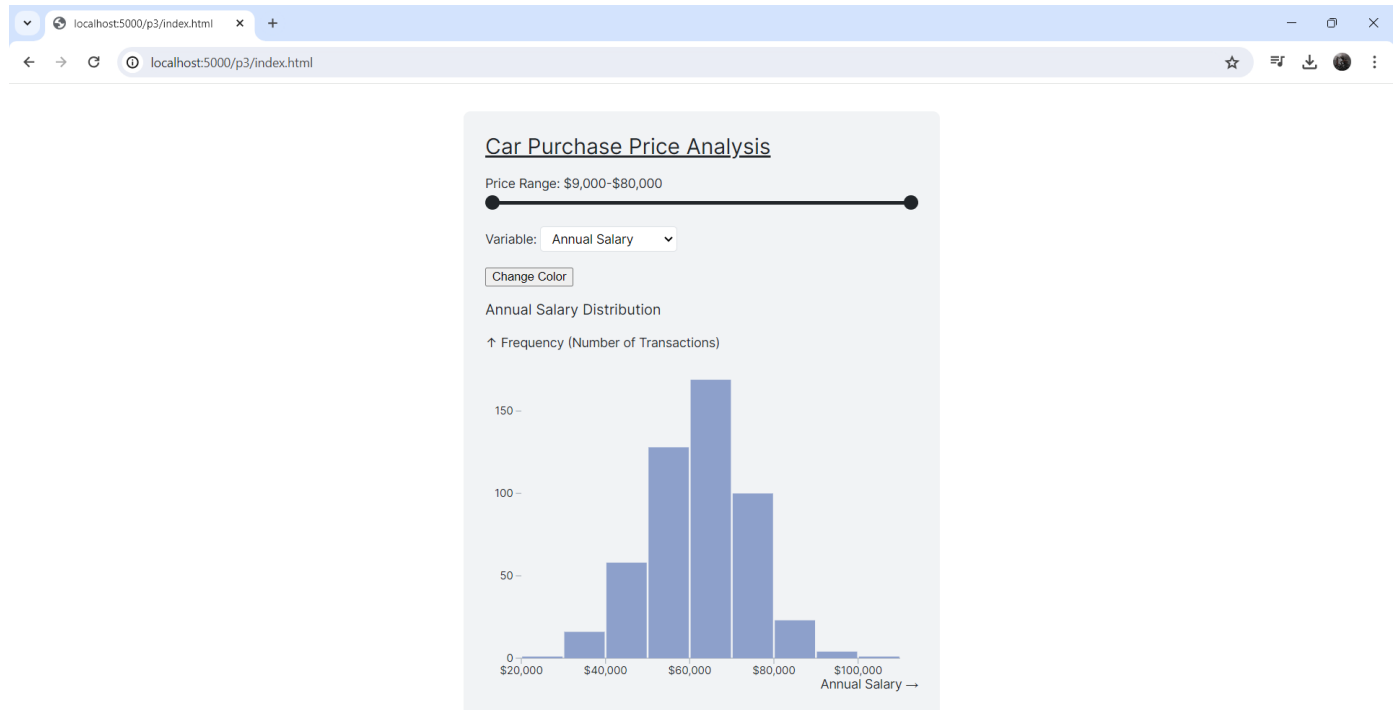


In the "Car Purchase Price Analysis" project, the age group distribution is analyzed using a

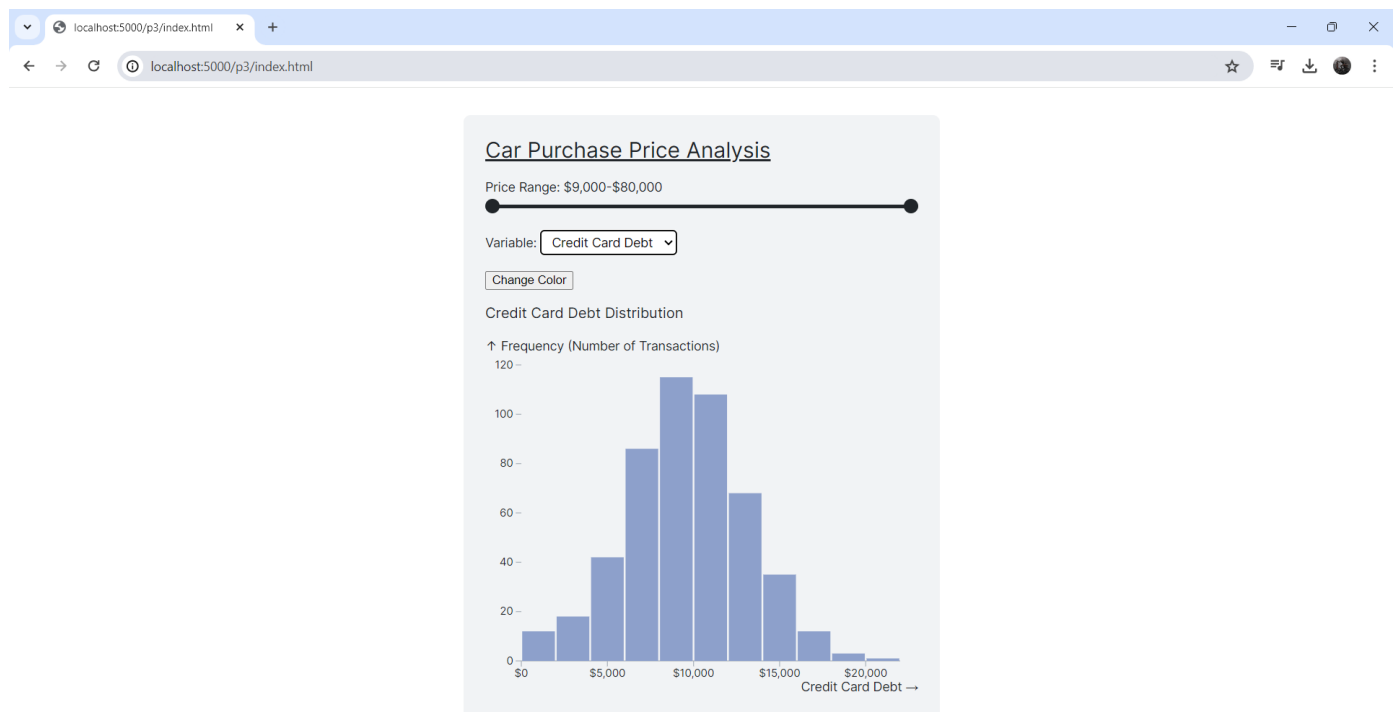
bar graph that represents the frequency of car purchases across different age brackets. The X-axis of the graph displays the number of transactions, while the Y-axis shows the various age groups. This visualization helps identify which age groups are more likely to purchase cars within different price ranges, revealing trends in car buying behavior based on age.



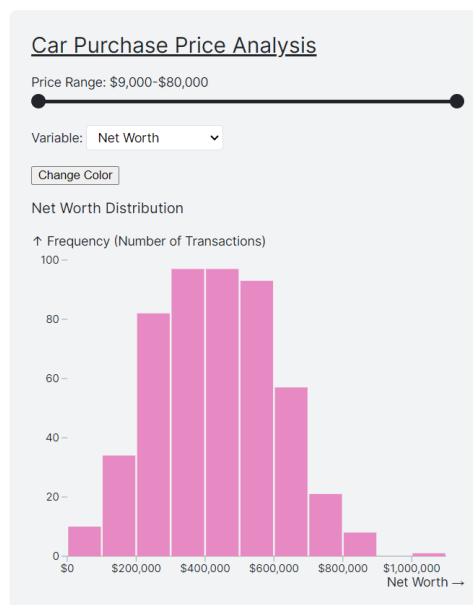
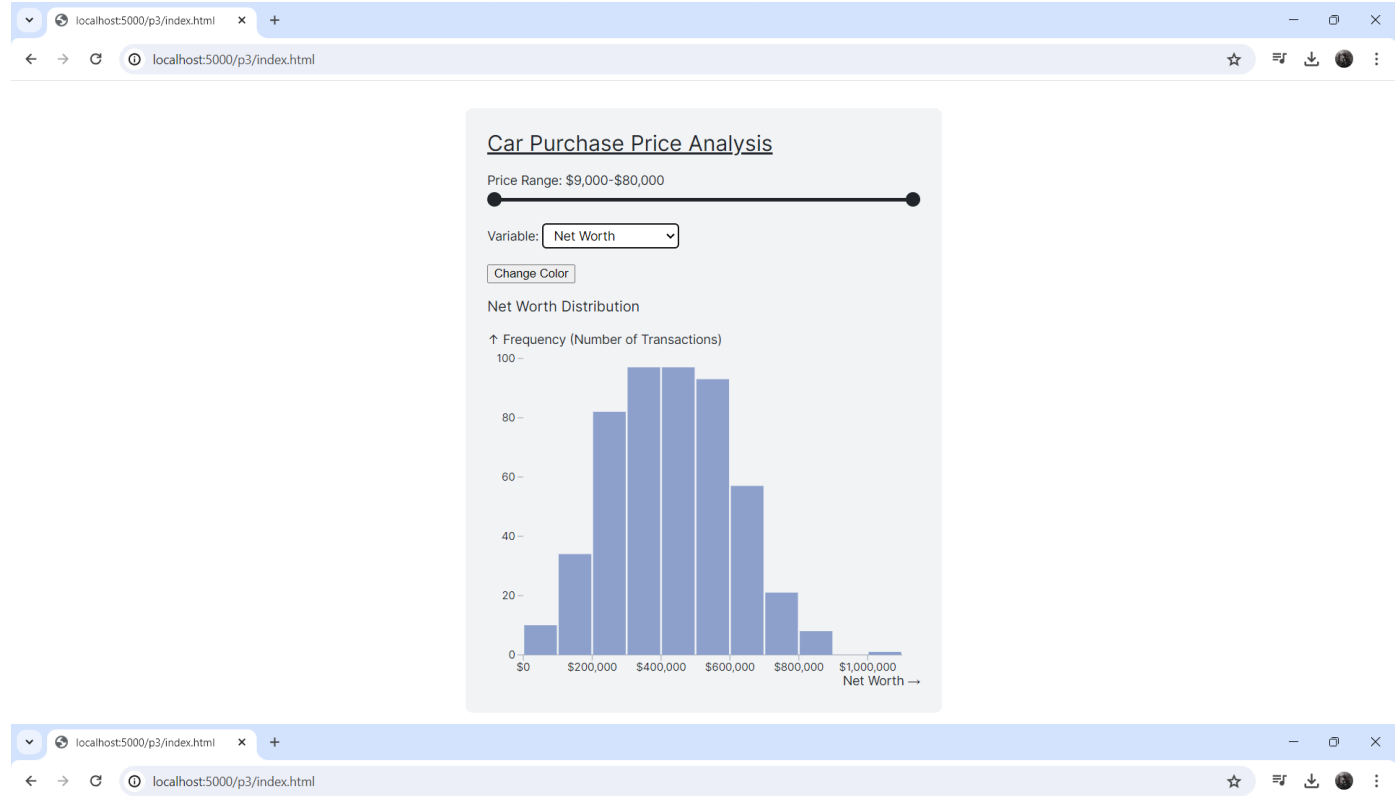
For instance, the graph might show whether younger buyers prefer less expensive cars or if older buyers tend to purchase higher-priced vehicles. By adjusting the graph to reflect different car price ranges, it becomes clear how age influences car buying decisions, providing valuable insights into the market preferences of different age demographics.



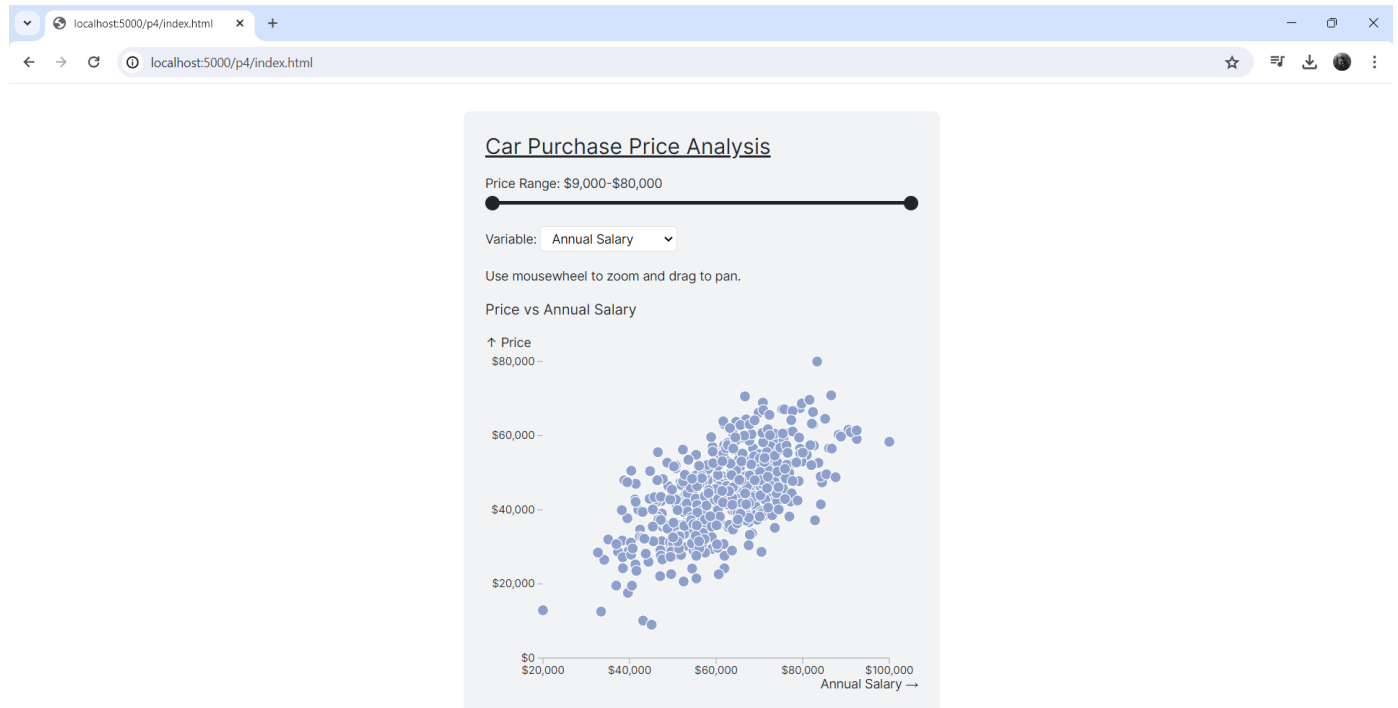
In the "Car Purchase Price Analysis" project, the section on variable distribution, also referred to as Annual Salary Distribution, focuses on three key financial metrics: annual salary, credit card debt, and net worth. Each of these variables is analyzed using bar graphs to understand how they correlate with car purchase amounts across different price ranges.



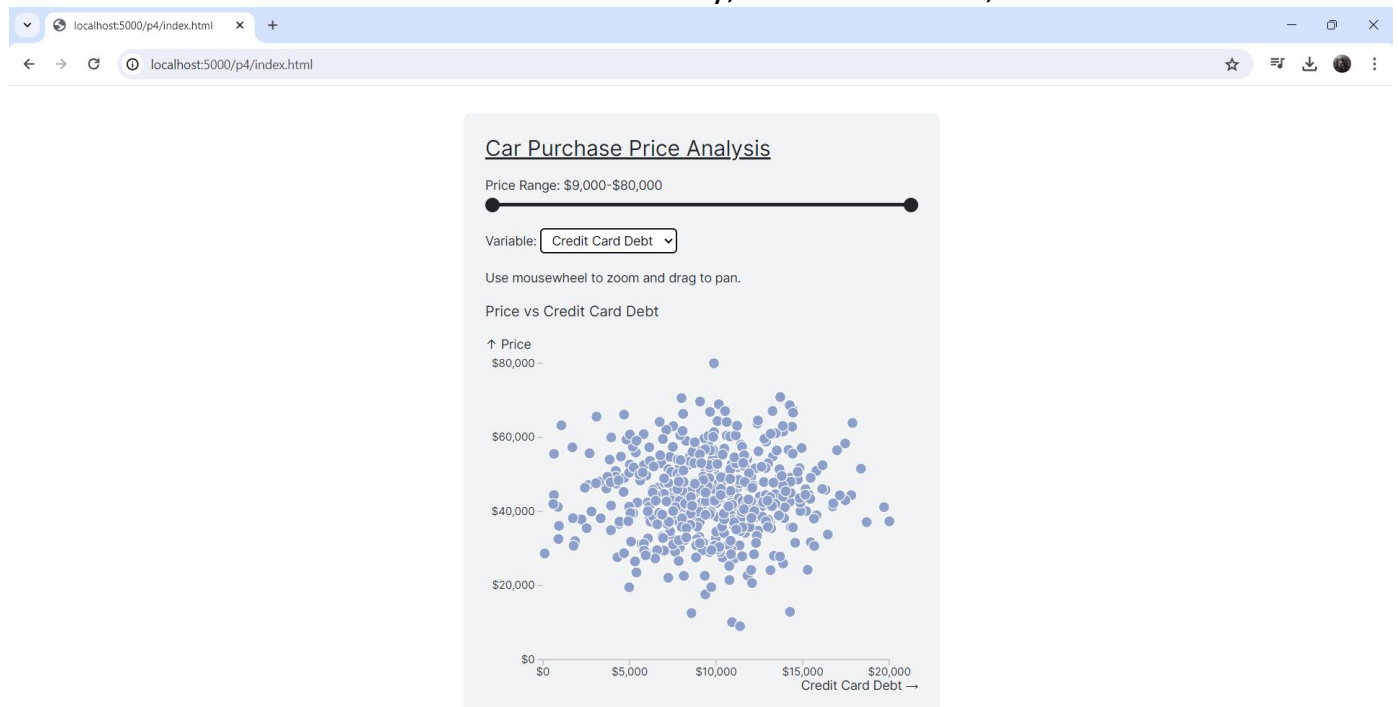
The graphs dynamically change based on the variable selected, showing, for instance, how people with higher annual salaries might choose more expensive cars, or how individuals with higher credit card debt might opt for less expensive vehicles.



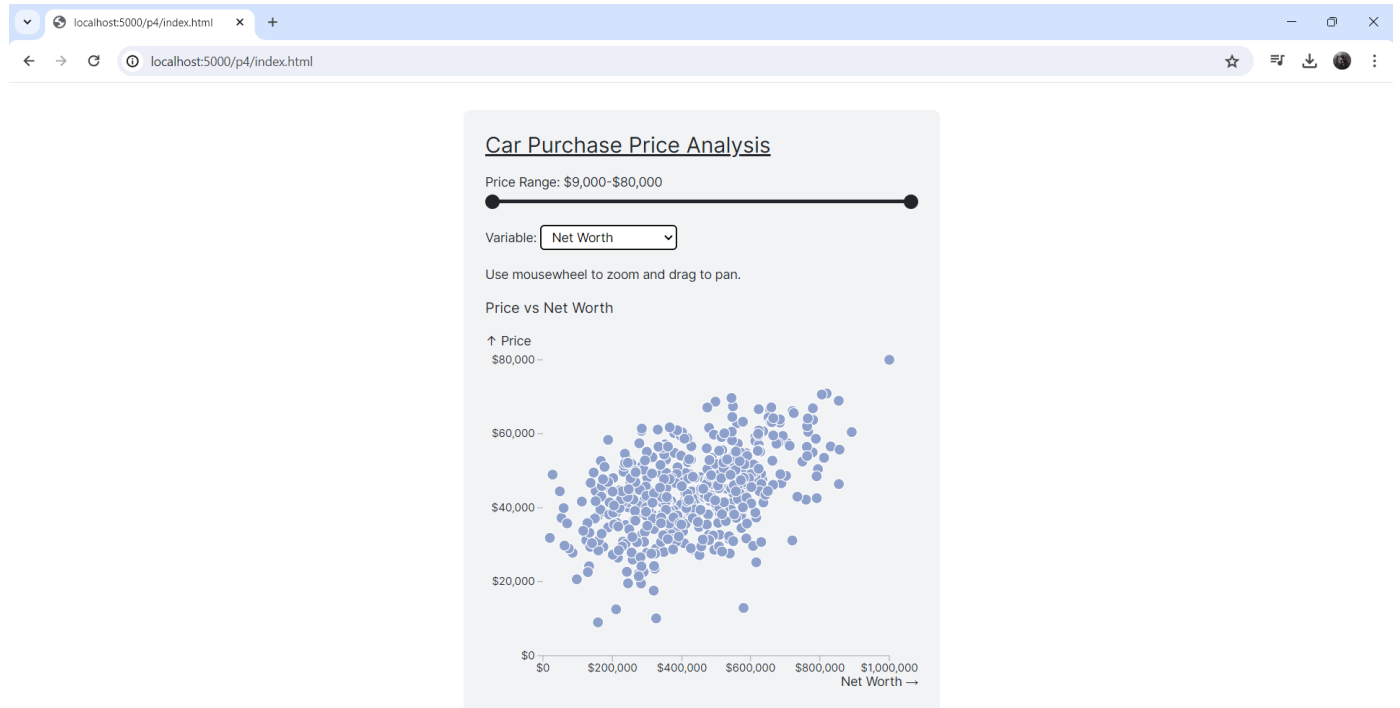
Another feature of this analysis is the ability to change the colors of the graphs, which enhances the visual clarity and helps differentiate between the variables more effectively. This detailed examination of financial variables helps uncover patterns in car purchasing behavior, illustrating how economic status influences consumer choices in the automotive market.



In the "Car Purchase Price Analysis" project, the "Price vs Variable" section delves into how different financial metrics correlate with the prices of cars that consumers decide to purchase. This analysis is visualized using a scatter plot, which adjusts dynamically based on the selected financial variable: annual salary, credit card debt, or net worth.



Each point on the scatter plot represents a car purchase, with the y-axis showing the price of the car and the x-axis varying according to the chosen variable. This visualization allows us to observe trends and patterns, such as whether people with higher incomes tend to buy more expensive cars or if those with greater net worth spend more freely on vehicles.



By exploring these relationships, the scatter plot provides insights into how financial status influences car buying decisions, highlighting the impact of economic factors on consumer behavior in the automotive market.