CS 416 Final Project Essay

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URL of visualization: <https://franknsalamone.github.io>

1. Messaging

The goal of this visualization is to communicate the message that automobile efficiency improved from the 1970s to the 1980s. This increase in efficiency resulted from technological advances such as turbocharging diesel engines, as well as from changes in design exemplified by imported cars. This messaging is highlighted by allowing the user to selectively display data from 1970s cars and compare it to data from 1980s cars. The user would see that newer cars have higher efficiency. The user may also choose to selectively display cars from domestic, Japanese, and European manufacturers. The message communicated would be that Japanese cars were generally more efficient. A final message is that turbocharged and diesel engines can be more efficient than naturally aspirated cars.

2. Narrative Structure

My narrative visualization follows an interactive slide show structure. My visualization follows this structure by presenting 3 slides that attempt to communicate my message. The first slide shows a chart that acts as a general overview of the message of the visualization. As the slides progress, more detail about specific engine technologies is added.

3. Scenes

In my scenes, if you mouse over a dot, which corresponds to a specific make of car, information is displayed about that car in an interactive fashion via a tool-tip.

4. Annotations

Annotations are used on the first and 3rd slide.

5. Parameters

6. Triggers

I use several triggers in this visualization. In the first scene, the introduction scene, one can click a button in the upper left-hand corner of the graph. This triggers a change in the state of the visualization to toggle between presenting data from cars of the 1970 and hiding this data. Cars from the 1980s are always present. This allows the viewer to compare the improvements in horsepower per unit displacement between these two decades. The ability to add the 1970s data is signaled to the user by the text “Push to Add 1970s Data”. The button acts as a toggle. When the 1970s data is present, the text is changed to “Push to Remove 1970s Data”. Further information about this functionality is given in the box to the right of the main graph.

Pressing the “Learn About Fuel Efficiency” button on the right side of the scene triggers the state of the visualization go to the second slide.

On the first and second slides, mousing over the individual marks, each representing a specific model of car triggers a tool tip to appear that gives information about the make of the car.

On the second slide, there is a button in the upper right corner of the graph to add and remove 1970s data that functions exactly like the button in the first slide. There is also a button that allows the viewer to trigger a transition to the third slide which presents information regarding the efficiency gains that different engine technologies afford.