CS416: Data Visualization

Narrative Visualization Project

**Lingrong Hu**

**Messaging**

The narrative visualization demonstrates the positive correlation between average highway MPG and average city MPG by using a scatterplot. It also helps to identify the significant gap between cars that use electricity and cars that use diesel or gasoline in terms of the average of average highway MPG and the average of average city MPG. Lastly, the visualization showed how the number of cylinders can affect car’s average of average highway MPG and average of average city MPG.

**Narrative Structure**

The narrative visualization is in the form of an interactive slide. It has three slides, slide 1 investigate the relationship between the average highway MPG and the average city MPG. Users can choose to view all the fuel types or a certain fuel type to better understand relationship. The last two slides showed the average of average MPG for different fuel types and cars with different number of engine cylinders. In both slides, users can choose to view only the average of average highway MPG or the average of average city MPG.

**Visual Structure.**

The paragraph on the top is an overview for the narrative visualization.

The slide navigator is located in the tops middle of the page. By using a format like “Previous Page 2/3 Next”, it communicates to the user where they are and how many pages this narrative visualization has. They can easily navigate between pages by clicking on “previous”, “next”, “Start Over”.

The title of the chart is bolded and in a larger font so that user can quickly understands what the chart is about and how each slide is connected by the investigation of MPG.

The most important part of the visualization is the chart and it’s located in the middle of the screen. Axes labels are used to make sure the users can understand the chart. Red annotations and arrows are used to highlight important findings.

**Scenes**

The first scene if about the relationship between the average highway MPG and the average city MPG. The second scene is about how fuel types can affect the average highway MPG and the average city MPG. The last scene is about how the number of engine cylinders can affect the average highway MPG and the average city MPG.

The aim of the visualization is to help users understand average highway MPG and average city MPG better. It is ordered in this way so that they can have an understanding about the relationship between the average highway MPG and the average city MPG first, then explore other factors that can potentially affect them.

**Annotations.**

All the annotations such as text and shapes are in red so that it will be consistent and obvious to see. The annotations directly point out the most important finding of the chart which is also the messaging. The annotations change slightly within a single scene when a user choose to view different aspect of the chart using the dropdown list. The change sometimes is for displaying purposes, sometimes is simply because the change of the measurement.

**Parameters.**

What are the parameters of the narrative visualization? What are the states of the narrative visualization? How are the parameters used to define the state and each scene?

In all the slides, the parameters can be chosen in the dropdown list. In slide 1, they are all or different fuel types such as Total, Gasoline, Diesel, Electricity. In the last two slides, the parameters are MPG types: average highway MPG and average city MPG.

**Triggers**

For triggers, users can use the buttons on the top of the pages such as “previous”, “next”, “Start Over” to navigate to different pages.

Besides, in all the pages users are allowed to select from a dropdown list to view specific information in the chart. This feature is introduced by using a note in blue text above the dropdown list stating “Select a type to view in the chart”.

Last, by hovering over the data points in the charts, users are provided with more detailed information about the data point. This tooltip is introduced by putting a note on the top left side of the chart stating “Hover over the data point to see more”.