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CS 416 – Data Visualization
Narrative Visualization

URL: https://shihab00.github.io/
GitHub Repository: https://github.com/Shihab00/Shihab00.github.io
Original Dataset: https://flunky.github.io/cars2017.csv

Messaging

The message conveyed through this visualization is an overview of cars manufactured in 2017, focusing on their efficiency in miles per gallon (MPG). The visualization allows users to understand how factors such as fuel type and engine cylinders affect car MPG. Additionally, it provides insights into the performance of different manufacturers and their cars' MPG.

Narrative Structure

The narrative structure is designed to resemble an interactive slide show. Users can navigate through three ordered scenes linearly, moving forward or backward. Each scene includes a few salient points to communicate the key messages. Users can also explore each chart in more detail through the provided tooltips. Additionally, scenes 2 and 3 include a drop-down menu, allowing users to change parameters such as the number of cylinders and the car's make.

Visual Structure

The visual structure of each scene remains consistent, featuring a title, salient points, navigation aids, a chart with tooltips and annotations, and buttons to move to adjacent slides. This consistency helps users stay oriented and navigate the charts with ease. The only changes between slides are the addition of different filters, as previously mentioned.

Scenes

There are three ordered, interactive scenes. The first scene introduces the subject of the slideshow with an overview of all cars manufactured in 2017, regardless of fuel type. As gasoline cars were the most common in 2017, the following two slides delve deeper into the details of gas-powered vehicles. The second scene provides information on the variety of gasoline cars based on the number of engine cylinders, with a filter to see differences in fuel efficiency. The third slide is similar to the second but focuses on how different manufacturers approach engine cylinders and MPG within their 2017 lineup.

Annotations

Annotations in each scene follow a consistent template, providing the make and overall MPG of the top 3 fuel-efficient cars in each chart. This lets users quickly identify the best-performing vehicles by fuel type, engine cylinders, and manufacturer. These annotations update in scenes 2

and 3 when the selected parameter in the dropdown filter changes the chart. However, the format remains the same, presenting the top 3 efficient cars based on the selection.

Parameters

The parameters include which HTML file is used for display, the number of engine cylinders in Scene 2, and the vehicle's make in Scene 3. The states include each slide in the visualization and changes in the chart's displayed data. These parameters determine the state of the narrative visualization by controlling the displayed text and the subset of data shown in the chart based on user-selected filters.

Triggers

Triggers that connect user actions to state changes include the previous, next, and first buttons, which change the scene based on the HTML file. Additionally, a drop-down filter in Scenes 2 and 3 changes the filtered data displayed in the chart using the number of engine cylinders or the vehicle make. Affordances to communicate available options include a shadow around each button to indicate they are clickable and a downward arrow to show a drop-down menu is available. Additionally, a message reminds users that tooltips are available in each chart.