**Final Project Write-up**

**Part 1: Website Description**

The **purpose** of this website is to provide a data visualization that compares movie characteristics between four streaming services: Netflix, Amazon Prime, Hulu, and Disney+. The **information conveyed** is obtained from a dataset found on Kaggle.com. My **target audience** is showrunners/directors and executives who are interested in catalog details of streaming services. My website presents a scatterplot visualization on the IMDb score, Rotten Tomatoes score, target age group, and runtime. Before starting the website development, I first need to perform preprocessing to effectively visualize it. I performed these operations using Python and the pandas library. Once the dataset was cleaned, I was able to utilize the revised CSV on my website.

**Interesting elements** of this website include the interactions users can perform with the data visualization. Utilizing the High chart API, I was able to construct an interactive visualization that allows for a simple presentation of the dataset. Notable features include:

* Animation of data points on scatterplot visualization
* Accessibility features that support screen reader (ChromeVox)
* Sonification of data points when clicked
* Export file options for the visualization

**Part 2: User Interactions**

The core experience and interactions of the website revolve around the scatterplot visualization. There are many ways the user can get both a high-level and detailed view of this streaming service dataset.

1. Using the **navigation bar**, the user can switch between different feature visualizations. For example, if they click “IMDb”, they will be able to view the visualization for the IMDb score of streaming service movies over time.
2. When the user hovers over a point on the scatterplot, the user gets more details on the highlighted movie.
3. By dragging diagonally on the visualization, the user can zoom in to get a closer look of the points in that area
4. At the bottom of the visualization, the legent also serves a toggle. By click on any of the categories the user is able to select or deselect the categories which would affect its appearance on the visualization. Also, when the user hovers over a categories, the associated points will be highlighted on the visualization.

A picture containing diagram

Description automatically generated Bubble chart

Description automatically generated with medium confidence 

**Part 3: External Tools**

1. Highchart API
   1. I chose this API because it contained built-in accessibility features and allows for quick data visualization through various interactive graphs and charts.
   2. The API provided documentation on specific ways to format JavaScript code. I primarily refer to the API documentation form formatting or syntax requirements.
   3. This API added advanced interactivity to the data visualization on my website.
2. Bootstrap
   1. I chose to use the JavaScript library because it allowed for the easy construction of a responsive website.
   2. I primarily used this library to quickly layout my website.
   3. This library added responsiveness, and concise layout to the website. This allows both the data visualization and the HTML elements to be formatting well in both the desktop and mobile view.
3. Highchart API Accessibility: <https://www.highcharts.com/docs/accessibility/accessibility-module-feature-overview>
4. Streaming Movies Dataset: <https://www.kaggle.com/ruchi798/movies-on-netflix-prime-video-hulu-and-disney>

**Part 4: Mockup Iterations**

In my initial prototype, I considered using a synchronized line graph from the High chart API. I believe it would be a good way to simultaneously show all the information from the dataset in one place. However, once I analyzed the data further, I found that it was not well suited for this type of visualization. This caused me to iterate on my prototype and take a different design approach. The main difference was the switch from a synchronized line graph to an interactive scatterplot.

Part 5: Implementation Challenges

I did have some implementation challenges in mapping other elements of the dataset to the data visualization. This is my first time using the High chart API, and I was not able to find any documentation on applying multiple values to one data point. I also struggled with properly adding the sonification functionality.

Github Link:

<https://github.com/suber-mhci/pui_final>

Website Link:

<https://suber-mhci.github.io/pui_final/>