MILESTONE 2

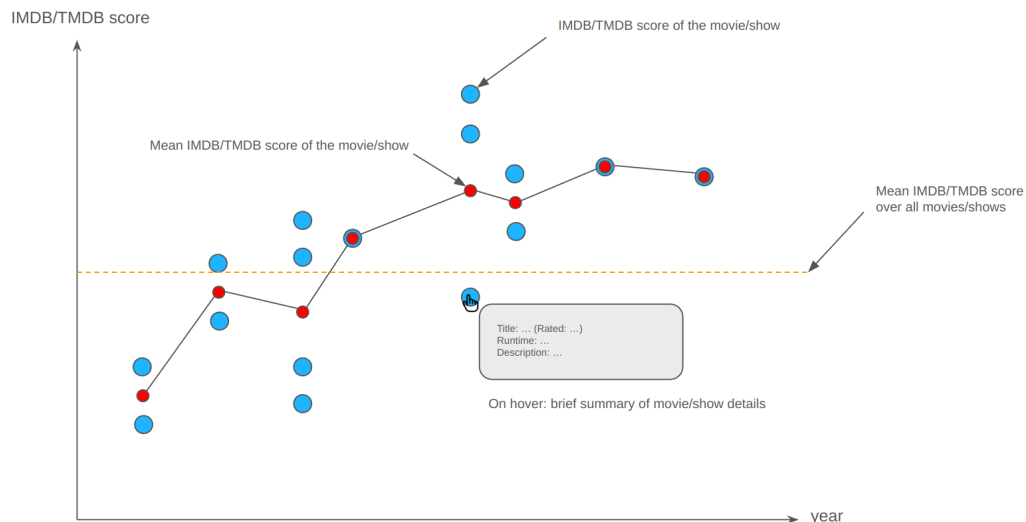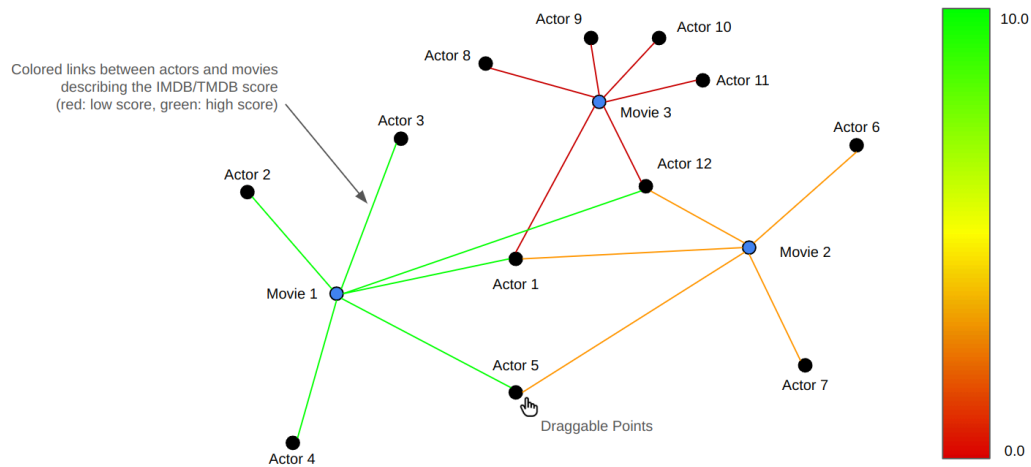**Visualizations:**

1. **Line Chart:**
   - **Description:** As an introduction, we will visualize the impact of an individual actor via a line chart, where the x-axis describes the release year of the movie/show and the y-axis describes the IMDB/TMDB score of the movie/show. The user will insert the name in an input field to choose an actor. A blue point represents a single movie/show. When the user hovers the mouse over a blue point, it will display brief details about the movie (Title, Rating, Runtime, Description). A red point describes the mean IMDB/TMDB score in a specific year. If the actor starred in only one movie in a year, the red point is directly in front of the blue one. The orange line indicates the mean IMDB/TMDB score throughout all years. The user can freely change the view between the IMDB and TMDB scores via a selector. When switching between score types, the lines, points, and the orange line will smoothly transition to the updated positions.
   - **Goals:**
     - Visualize the success of movies/shows starring an actor.
     - Highlight the mean score of all movies and shows involving an actor.
   - **Tools:** D3.js, jQuery
   - **Lecture References:** "D3", "Interactions, Views", "Interactive D3"

2. **Actor-Network:**
   - **Description:** We will visualize the actor's success in movies and shows with other actors via networks. Each node in the network describes an actor or a movie/show. The visualization includes zooming and dragging features. The nodes themselves are interactive and can be dragged around. The link between actors and movies/shows will be colored based on the IMDB/TMDB score via a red-yellow-green color map, where red implies a low score and green indicates a high score.
   - **Goals:**
     - Visualize the success of movies/shows starring an actor.
     - Highlight which co-actors worked especially well with actors.
   - **Tools:** D3.js, jQuery

- **Lecture References:** "D3", "Interactions, Views", "Interactive D3", "Perception, Color"

Colored links between actors and movies describing the IMDB/TMDB score (red: low score, green: high score)

Draggable Points

3. **Actor-Country:**
   - **Description:** We aim to visualize the geographic distribution of actors' birthplaces across shows and movies in the Netflix dataset. To accomplish this, we'll utilize an interactive world map. Initially, we'll illustrate the actor count for each country, with darker colors representing greater numbers of actors. Additionally, we'll integrate a toggle button to switch the map's representation, allowing us to visualize with colors the average rating of each country based on the actors born there. Our interactive map will allow users to click on the countries for basic statistics, enabling the identification of any emerging patterns or tendencies, and also to have a more precise view of the actors' place of birth distribution (for example, below we clicked on the USA). It is important to note that our initial dataset lacks actors' birthplaces. We will use the TMDB API to retrieve this information for each actor in the dataset.
   - **Goals:**
     - Visualize the geographic distribution of actors' birthplaces across shows and movies in the Netflix dataset.
     - Highlight countries with higher numbers of actors, higher average ratings.
     - Click on a country for more statistics, and see visually the distribution within the country
   - **Tools:** TMDB API, D3.js and JQuery
   - **Lecture References:** "D3.js", "Perception colors", "Do and dont in viz", "Designing viz" and mainly the lecture on "Maps".
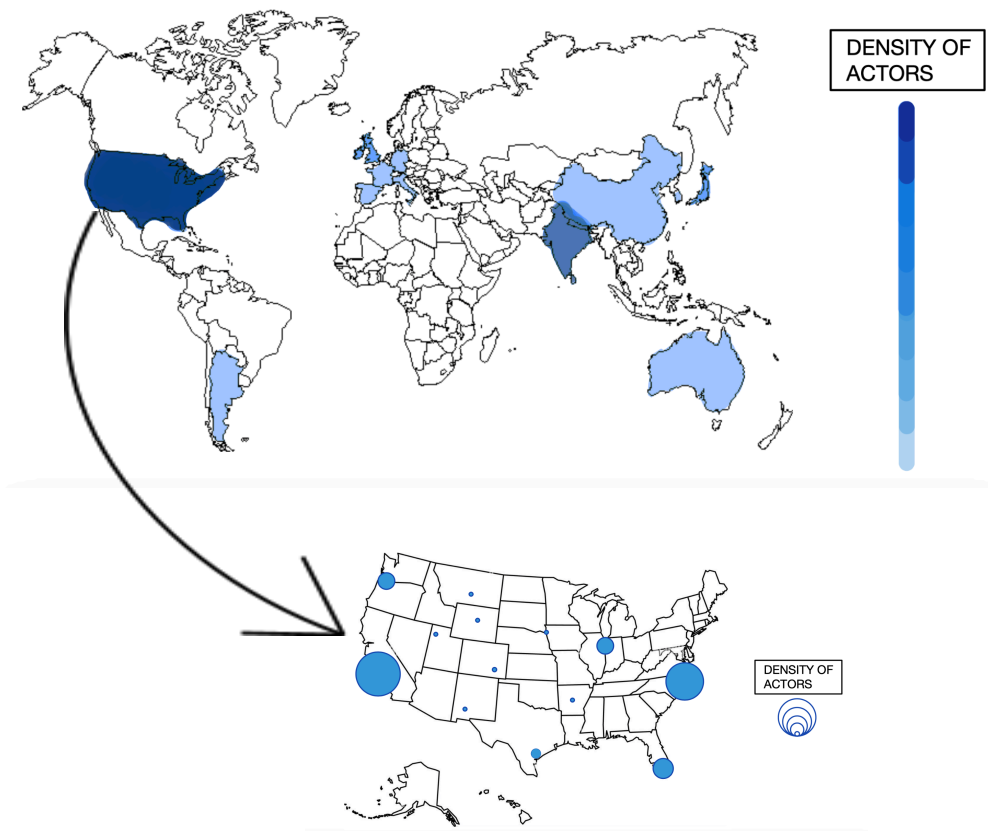
4. **Interactive Bar Chart:**
   - **Description:** In this interactive bar chart, the number of actors involved in movies produced during each year is plotted, and for each year, the IMDB the number of actors involved in movies falling in a certain IMDB range is shown in the stacked bar chart. The chart is interactive using Plotly.js, and one can zoom and inspect different parts of the years and IMDB ratings. For each rating range during a year, the bar chart can be clicked on which takes one to the next chart which is the bubble chart.
   - **Goals:**
      - Visualize the density of actors in each rating range during different years.
      - Visualize the evolution of the actor density per rating range during different years.
   - **Tools:** Plotly.js
   - **Lecture References:** "Interactions, Views", "Perception colors", "Do and dont in viz", "Designing viz"
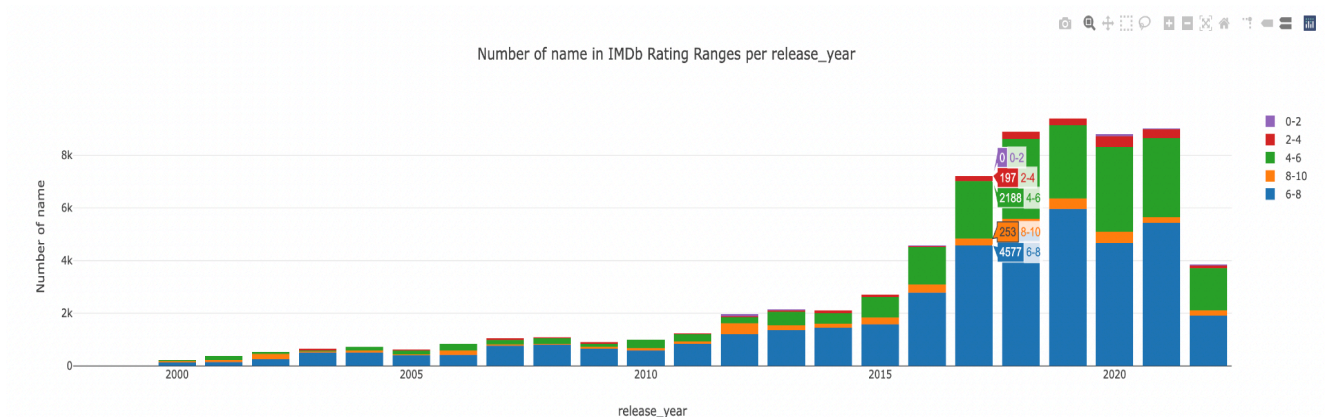
5. **Bubble Chart**
   - **Description:** In this interactive bubble chart, the different genres of movies falling into the clicked-on IMDB rating range during a year is shown, with the diameter of each bubble being proportional to the number of actors falling in this genre. Once clicked, the idea is to show the top 5-10 actors in this genre for this year. The visualization of these actors will be simple at first, showing only basic information without a complicated visualization. An extra idea would be to work on an interactive actor list visualization.
   - **Goals:**
     - Visualize the density of actors in each Genre, possibly showing how certain genres are more affected by actors than others.
   - **Tools:** D3.js
   - **Lecture References:** "Interactions, Views", "Perception colors", "Do and dont in viz", "Designing viz"
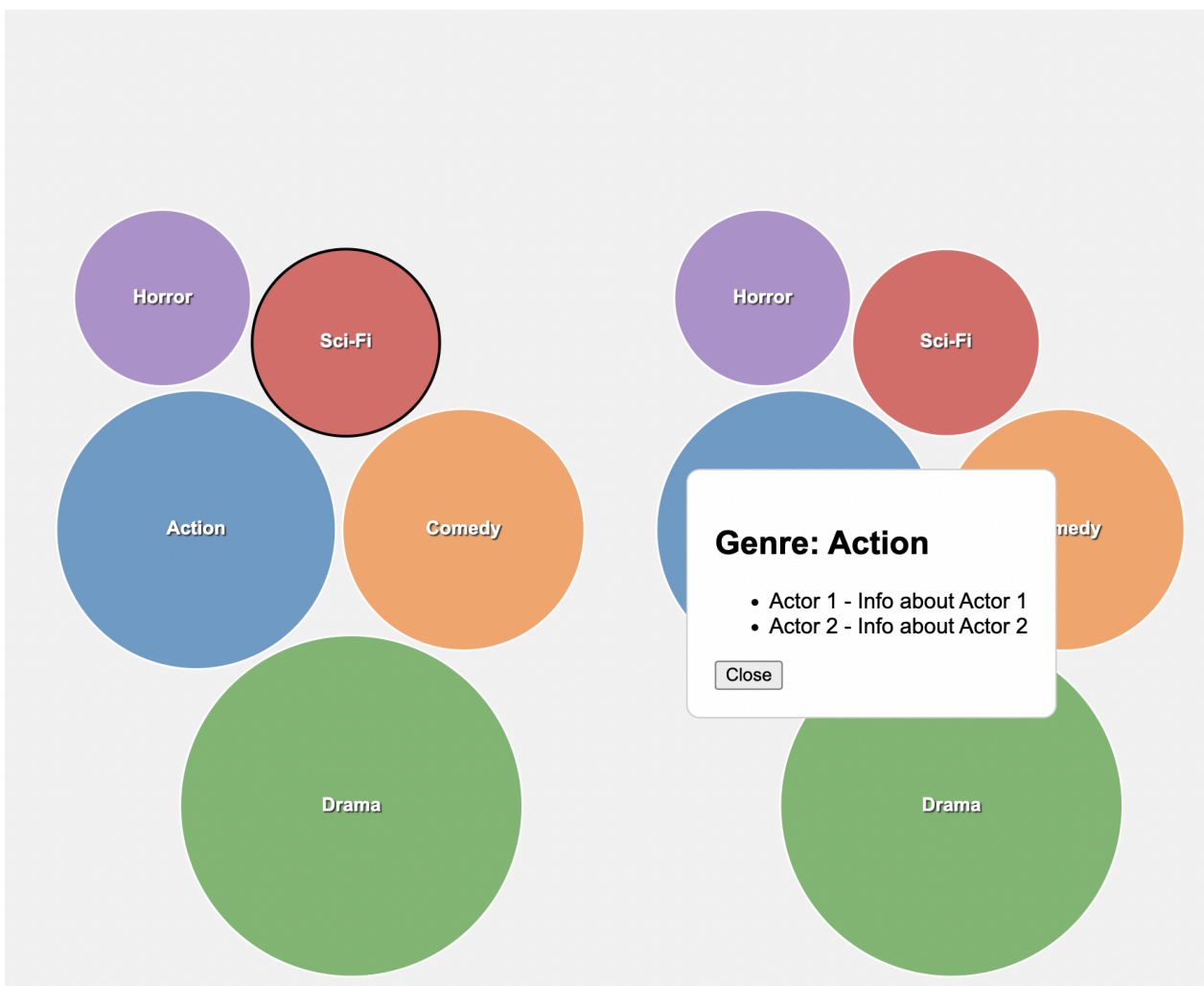
Notes for the website: For the Netflix logo animation at the beginning, we borrowed the work of Chinmay (@chigggsy) on CodePen.io (https://codepen.io/chigggsy/pen/VwvLZRY).