

Checkpoint IV: Second Prototype

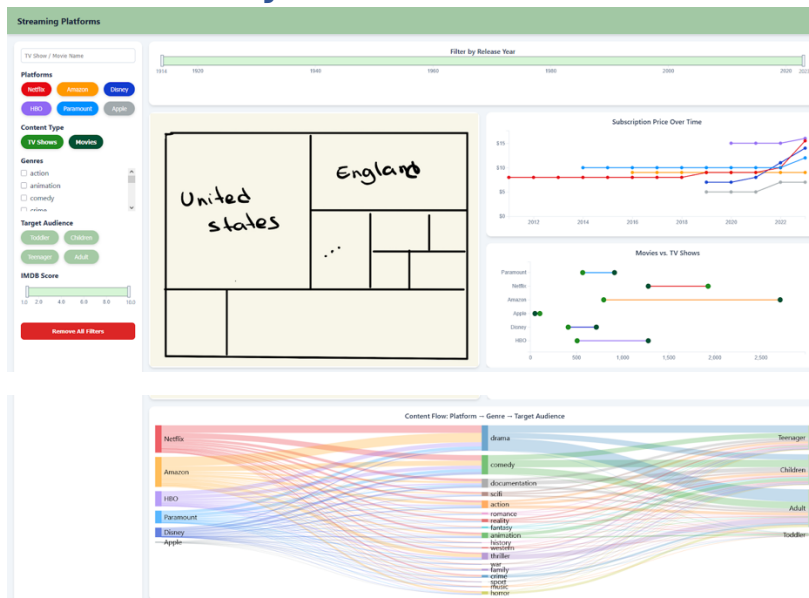
Group: G20

Date: 2025/10/04

Prototype Architecture

A key update for this checkpoint was the integration of a new dataset, *streaming_prices.csv*. This file provides the data required for the new multi-line chart that visualizes the evolution of subscription prices. As part of our data processing, we converted text fields to numbers where necessary. We also cleaned the new dataset by removing all entries dated after 2023 to ensure consistency with our primary dataset. The new chart functions have been integrated into our existing rendering pipeline, ensuring they respond to all filters alongside the other visualizations.

Dashboard Layout



The Visualization Canvas (Right Column): This is the main area where the data is displayed. It is organized into a grid to organize the various charts:

- **Line Chart:** The primary visualization showing the changes in prices for the platforms over the years.
- **Dot Plot:** The primary visualization showing the total quantity of content for the platforms, divided into films and TV shows.

Data Processing

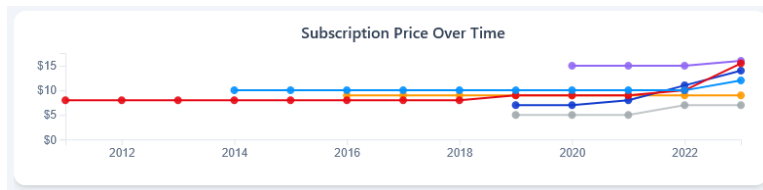
Our data processing occurs in two main stages: an initial cleaning and preparation step when the data is first loaded, and a dynamic, runtime aggregation step that reshapes the data for each specific visualization after filters are applied.

- **General Preprocessing for streaming prices:** Convert string fields, such as year and price, into numerical values and remove lines with years > 2023.

- **Line Graph:** Lines are created for every platform selected, with the color corresponding to the platform, each line has points for the price in that year and the axes are changed depending on the available data for the filters selected.
- **Dot Plot:** Lines are created for every platform selected, with the color corresponding to the platform each line has two points, one for TV shows and one for movies, with the corresponding colors and the axes are changed depending on the available data for the filters selected.

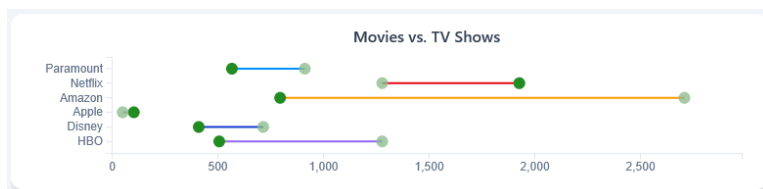
Chart Interaction

The Line Chart:



- **Description:** The Line Chart shows the **price** of the **platforms** over the **years**.
- **Interactivity:** The chart supports interaction in two ways:
 1. **Global Filtering:** as explained on Checkpoint 3.
 2. **Direct Inspection (Tooltips):** The chart also supports direct interaction on its lines. When a user hovers their mouse over a line or point, a tooltip appears. This tooltip displays the exact price in the year and platform that the point corresponds to, or if hovering over a line, the platform corresponding to it.

The Dot Plot:



Description: The Dot Plot shows the amount of content per **platform**, divided into TV Shows and Movies, each as a corresponding point.

The length of each line corresponds to the total content in that platform, making it easy to spot the dominant platforms for the chosen filters.

- **Interactivity:** The chart supports interaction in two ways:
 1. **Global Filtering:** same as explained on Checkpoint 3
 2. **Direct Inspection (Tooltips):** The diagram also supports direct interaction on its lines. When a user hovers their mouse over a line or point, a tooltip appears. This tooltip displays the exact quantity of content when hovering over a point, and when hovering over a line, the total content for that platform.

Chart Integration

All visualizations in the dashboard are linked using a **centralized, state-driven filtering model**. The mechanism works through the same three key components as described in Checkpoint 3.