Checkpoint V: Third Prototype

Group: G20
Date: 2025/10/11

Prototype Architecture

For this checkpoint, our main implementation was the addition of a **Treemap** to represent countries. However, we also introduced several improvements to the **Filter Panel**:

- **Genres Filter:**
  - Added a **Select All** button, allowing users to easily select or deselect all genres.
  - All genres are now **selected by default**, ensuring that all genres are initially displayed in the idioms view.

- **Country Filter:**
  - Added a new **Country Filter** for more precise data exploration.

Additionally, we implemented a new interactive filtering feature: users can now **click directly on an idiom** to automatically select the corresponding filter and view the filtered results.

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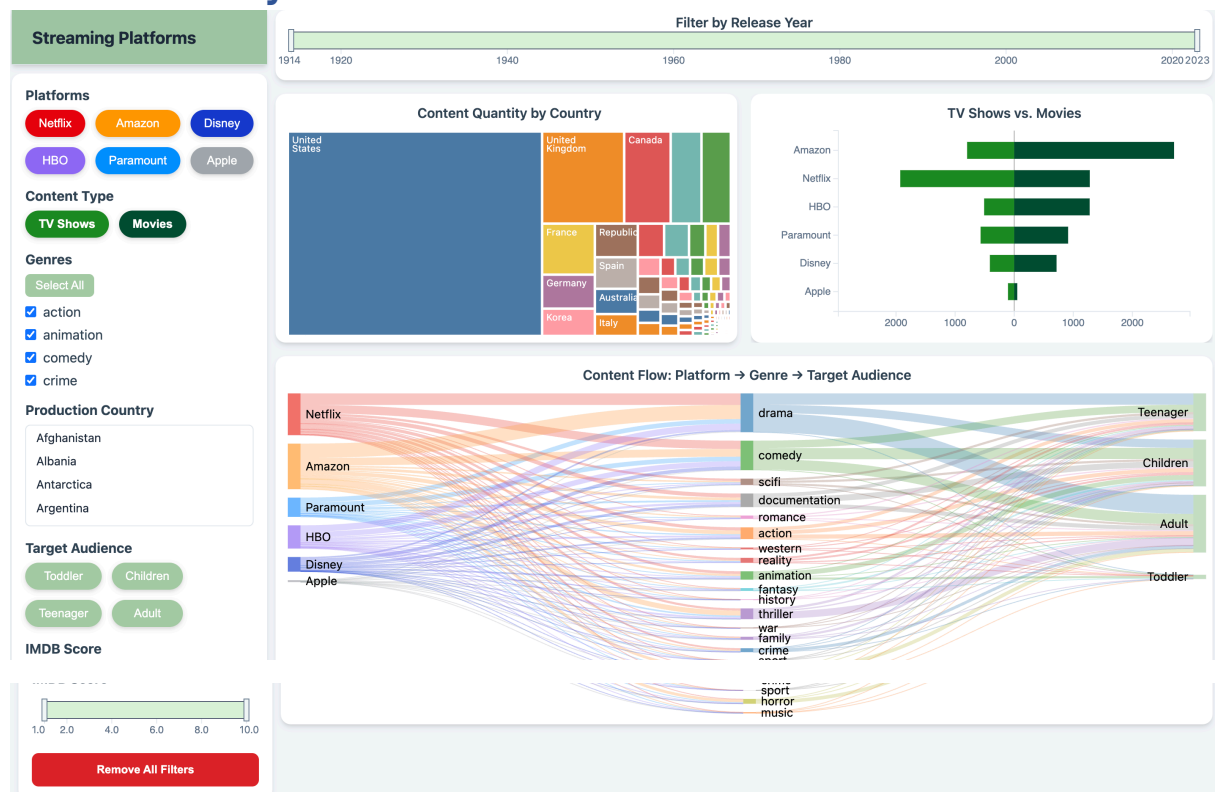
The Visualization Canvas (Right Column): This is the main area where the data is displayed. It is organized into a grid to organize the various charts:

- **Treemap:** The primary visualization showing the amount of content produced in each country.

Data Processing

To implement the **Treemap**, we needed to adjust our data processing. Specifically, we added a new column to the dataset to **convert country codes into full country names**, as we realized that using only codes made the Treemap difficult to interpret and filter. Additionally, we **processed string fields** to ensure that any empty values in country row would return an **empty list**, maintaining data consistency.

Chart Interaction

Content Quantity by Country
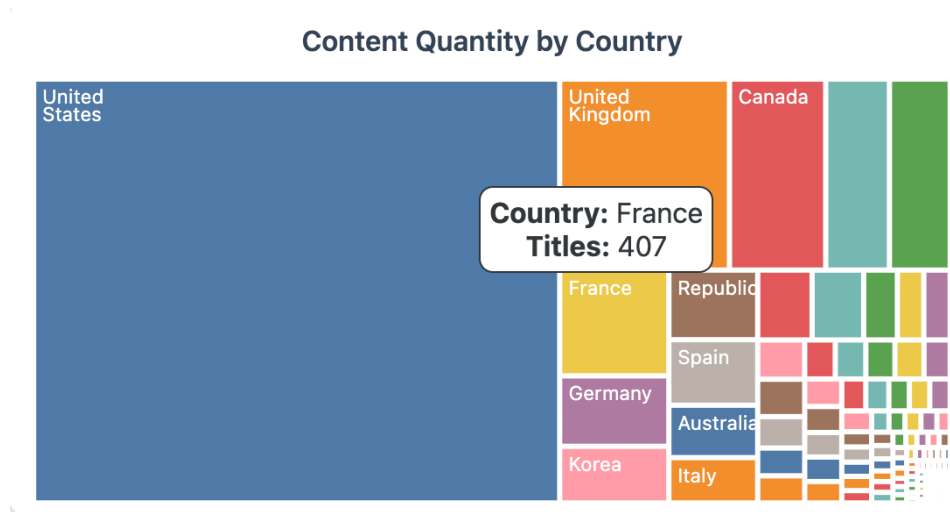
- **Description:** The treemap shows the **amount of content** per **country**.

- **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 with its areas. When a user hovers their mouse over it, a tooltip appears. This tooltip displays the name of the country and the total that was produced there.

General:

Currently, all the graphs include interaction when clicking on their components. This means that when clicking on the different components of the graphs, the filters are updated accordingly. For example, clicking on one of the countries in the treemap makes it so that only information from that country is shown. This was done for the countries in the treemap, the nodes in the alluvial graph, and the bars in the butterfly chart.

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 III.