U.S. YouTube Video Trends: Tableau Dashboard & Story

Project overview

Link to dashboard

Link to story

For this project, I created an interactive Tableau dashboard and story titled **"U.S. YouTube Video Trends"** using **Tableau Public**. I explored trending YouTube videos across the U.S. to uncover insights into viewer sentiment, content performance, and regional preferences. The project includes four charts, each providing unique insights into video performance and viewer trends:

1. **"Likes vs. Dislikes Across YouTube Categories"** (Scatter Chart) – This chart examines the relationship between likes and dislikes for videos across various categories, offering insights into viewer sentiment.
2. **"Top 20 YouTube Channels"** (Bar Chart) – A bar chart ranking the top 20 YouTube channels based on views, highlighting the most influential content creators on the platform.
3. **"Video and View Counts by Category"** (Dual-Axis Bar Chart) – This visualization compares video and view counts across different YouTube categories, showing how content popularity varies by genre.
4. **"Top YouTube Categories by State"** (Map) – An interactive map that displays the most popular YouTube categories across different U.S. states, offering a regional perspective on video trends.

Dataset overview

For my data visualization project, I am using a dataset containing statistics on trending YouTube videos in the U.S. This dataset was originally sourced from Kaggle and then transformed and cleaned by Udacity for educational purposes.

Data source: Kaggle – Link to data source

Cleaned dataset: Udacity – Link to dataset

The dataset is divided into three CSV files, each representing different aspects of the data:

- The *YoutubeDataCleaned.csv* file provides key metrics for each video, such as views, likes, and dislikes, alongside metadata like video titles, channel names, and categories. The file contains repeated video titles for each trending date. This occurs because the dataset tracks the same video across multiple days as it remains on YouTube's trending list.
- The *Category Names - Sheet1.csv* file includes a mapping of numeric category IDs to human-readable category names.
- The *TagsTransposed.csv* file lists the tags associated with each video.

"Likes vs Dislikes Across YouTube Categories" Scatter Chart

Brief Description of the Visualization

The scatter plot "Likes vs Dislikes Across YouTube Categories" examines the relationship between likes and dislikes for trending videos in different categories. Each data point represents an individual video. Specific shapes of data points represents different category names. The "Category Name" filter enables a more focused analysis of likes and dislikes within a particular category.

Design Choices and Changes

A scatter plot for likes versus dislikes allows for a visual representation of the correlation between two quantitative variables (likes and dislikes) facilitating the identification of trends and outliers within the data. By employing unique shapes for each category, users can immediately recognize the category of a video based on its shape. Users can easily compare likes and dislikes not just by the position of points on the scatter plot, but also by observing the concentration and distribution of different shapes. The trend line adds a layer of analysis, helping to identify correlations.

Each data point features tooltips that provide additional context, including the video title, category name, number of views, likes and dislikes. The inclusion of a filter for category names allows users to focus on specific genres, enhancing interactivity and tailored analysis based on user interests.

Key Findings

The scatter plot shows a positive trend line across all categories, indicating that as the number of likes increases, so do the dislikes. The clustering of points suggests a consistent relationship, meaning that successful videos tend to receive both strong support and criticism. This reflects the complexity of audience engagement, where popularity can evoke mixed reactions.

"Top 20 YouTube Channels" Bar Chart

Brief Description of the Visualization

The "Top 20 Channels" bar chart visualizes the total view count for the trending videos within the top 20 YouTube channels. Each bar represents a different channel, with the length of the bar corresponding to the total view count. The "Number of Views" calculated field uses a Level of Detail (LOD) calculation to capture the highest view count for each unique video title, ensuring that only the most relevant view count is considered for each video. In the bar chart, “Number of Views” are aggregated to display the total views associated with each channel.

Design Choices and Changes

Horizontal bars are used to enhance the readability of the chart, especially when channel names are longer. Channels are sorted in descending order based on their view counts, which allows viewers to immediately identify the most popular channels. Category name, channel name and view count are displayed in tooltips providing additional information when hovered over, making the chart interactive and informative. “Category Name” filter can be applied to narrow down the view to specific category, offering flexibility in analysis.

Key Findings

This chart identifies the YouTube channels with the highest total view counts from their trending videos. “Marvel Entertainment” stands out as the leader, with over 163 million views from its trending videos, emphasizing its broad appeal and powerful brand presence on YouTube. “YouTube Spotlight” follows closely with 150 million views, reflecting its role in promoting viral and trending content across a variety of creators.

"Video and View Counts by Category" Dual-axis Bar Chart

Brief Description of the Visualization

The dual-axis bar chart titled "Video and View Counts by Category" combines bar and dot plot formats to present insights into YouTube video performance across different categories. The "Number of Views" is a calculated field that uses the highest view count for each unique video title as the total views per video. For each bar, “Number of Views” are aggregated to display the total views associated with each category. The dot plots indicate the distinct count of each video title.

Design Choices and Changes

Dual-axis format enables the simultaneous display of two related metrics—view counts for trending videos and the number of trending videos. Distinct colors are used for bars and dots to clearly differentiate between the two data sets, improving clarity and visual appeal. By having “Channel title” as a lower hierarchy under “Category Name”, users can drill down effectively, giving deeper insights into individual channels within categories. Tooltips enhance the user experience by providing additional information when hovering over a bar, including the category name, number of videos, number of views, likes, and dislikes.

Key Findings

The dual-axis bar chart reveals that “Music” and “Entertainment” categories have the most views. The “Music” category has over 1,771 million views with just 532 trending videos, while the "Entertainment" category features 1,422 million views with 1,045 trending videos. These findings suggest that while the **Music** category may have fewer videos, each video tends to perform at a higher level in terms of total views. The **Entertainment** category, with its larger pool of trending videos, still generates significant total views, underscoring the breadth and diversity of content within this category.

“Top YouTube Categories by State” Map

Brief Description of the Visualization

The map named "Top YouTube Categories by State" reveals regional preferences, highlighting which categories are the most popular in each state and the corresponding number of views.

Design Choices and Changes

The map visualization shows the most popular category in each state. Color-coded legends are used for clarity, allowing users to quickly identify which category dominates in each state. When the “Category Name” filter is applied, the map visualization updates to show which states the selected category is trending in. Users can hover over each state to see category name, state code, number of videos and views corresponding to the selected category in the state.

Key Findings

The map visualization illustrates that “Music” is the most popular category in most states, confirming previous findings regarding its widespread appeal. This regional analysis supports the conclusion that music content resonates strongly across diverse demographics. The “Entertainment” category also ranks highly in several states, highlighting the broad interest in entertainment content.