

Project Proposal

Describe what data is stored in the database. (Where is the data from, and what attributes and information would be stored?)

The data stored in the database is from Youtube and is a daily updated dataset that records the top trending videos. The attributes we will use are video id, title, publish date, category id, trending date, tags, view count, and likes. This data is available for multiple different countries/regions and has different .csv files for each. The main data for the tables is stored in .csv, which uses a json file to store category id information that is linked to the main table via a key.

Dataset Link:

https://www.kaggle.com/datasets/rsrishav/youtube-trending-video-dataset?select=US_youtube_trending_data.csv

What are the basic functions of your web application? (What can users of this website do? Which simple and complex features are there?)

Users can view advanced analytics on trending youtube videos. These include viewing the most trending videos, most views on each video, various charts for things like USA weekly, region selection. Some possible more advanced features might include users having accounts and authentication. If this were possible to be completed in time we could also have personalized Youtube Playlists for users.

List of Features:

- Search Videos by Tagname
- Create a "Watch later" that stores the video links in a table
- Average Views/Likes by Category
- Viewing Trending tags
- Trending videos for today, the week, the month, the year
- Prompt users to enter categories/topics they like and cater trending videos to their selections
- Trending Videos by season or time of year

What would be a good creative component (function) that can improve the functionality of your application? (What is something cool that you want to include? How are you planning to achieve it?)

A cool component we could build would be an Engagement Heat Map that includes: Heatmap Generation, Key Engagement Metrics, Interactive Timeline, Clickable

Moments, Segmented Heatmaps, Comparison Tool, Content Optimization Tips, Exportable Reports. We could have queries that fetch the necessary information for the heatmap and plug it into a python data library such as seaborn, that creates heatmaps.

Another cool component that we think could improve the functionality of our application is to create an automatic data pipeline that updates the database daily with new trending data from Youtube. If time permits, we would like to add this additional feature to our project.

Project Title

TubeTrends Toolbox

Project Summary

The project aims to develop a web application that uses data from the YouTube Trending Video dataset. The web application will offer users a platform to explore and analyze YouTube video trends in various ways. Users will be able to view trending videos by day, week, month, and year. They can also view trending videos by category or tagname. The application can offer video recommendations which will be catered to the user's preferences and what videos are currently trending. By harnessing the data available on the YouTube dataset, this application seeks to provide valuable insights, video recommendations, and foster a deeper understanding of online video content and its impact on digital culture.

Application Description

We look to create a sleek, interactive application for individuals to go and view Youtube trending data. The web application will host many features that will enhance the user's overall experience. Graphs will display trending Youtube video data by time and views. A trending video ticker will display trending videos for the day and week while also listing trending video categories and tag names. Trending Youtube data can be catered to the user's liking if they select to fill in the built-in category survey. With our application, we hope to make trending youtube video data more accessible and easier to understand.

Usefulness

This application will be useful due to its simplicity and interactive abilities. The users of TubeTrendz Toolbox can easily discover trending videos by tags, channels, categories,

or countries. Using this application, the regular YouTube views can search for videos that they might find interesting. On the other hand, the content creators can learn what kind of videos are popular to their targeted demographic to gain more views and subscribers.

Youtube has similar built-in features to our web application. Youtube allows the user to see trending videos by video category. However, we hope to provide a more comprehensive insight into Youtube video trends by presenting data in a different format such as using graphs to project video data trends and filtering data trends based on the user's selection.

Realness

We will be using data from Kaggle that provides specifications for trending Youtube videos. This data is provided through an open source and is linked below. The data set also includes an open-source API command we can use. We can use Kaggle's free public API to get a token.

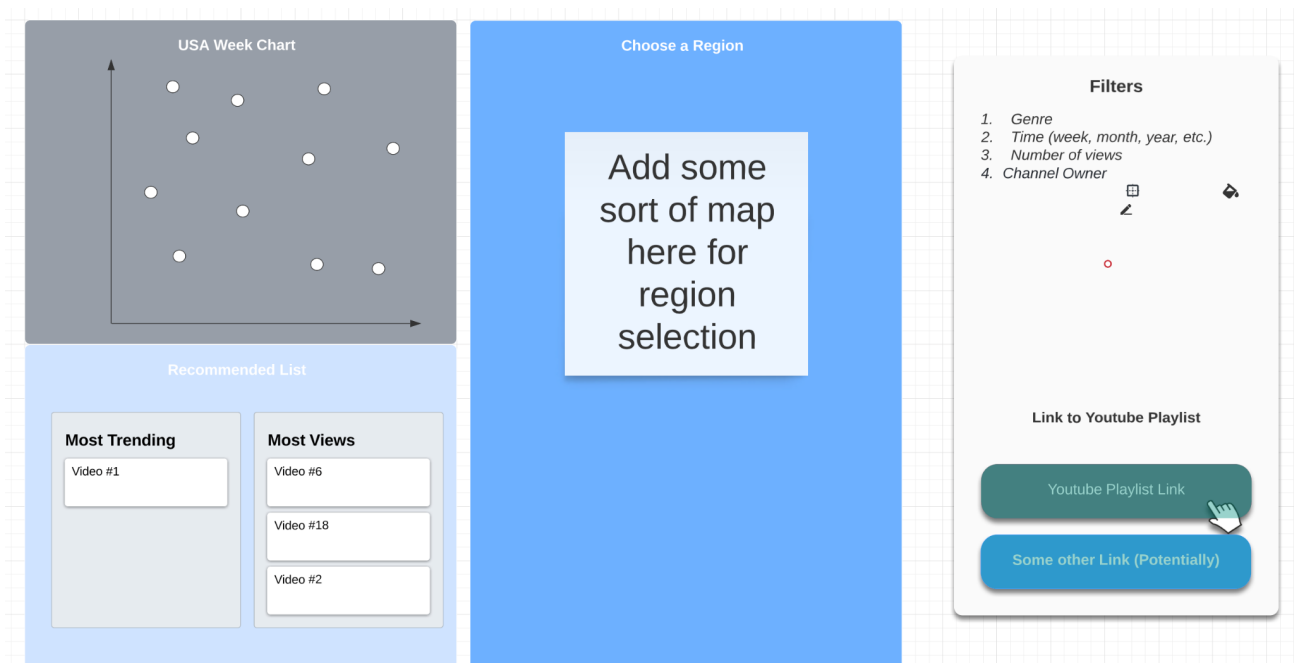
API Dataset Download command:

```
kaggle datasets download -d rsrishav/youtube-trending-video-dataset
```

Dataset Link:

https://www.kaggle.com/datasets/rsrishav/youtube-trending-video-dataset?select=US_youtube_trending_data.csv

UI Mockup



Project Work Distribution

Diya: Search Videos by Tagname, Create a “Watch later” that stores the video links in a table

Andrew: Average Views/Likes by Category, Trending videos for today, the week, the month, the year

James: Trending Videos by season or time of year, Viewing Trending tags

Jon: Prompt users to enter categories/topics they like and cater trending videos to their selections

Backend tasks will be distributed based on features. Ideally, we will be able to aid each other throughout the process to encourage consistency and leverage our strengths. However, we plan to “master” our specific features to help with work distribution.