CS 411 PT1 Stage 1

Sept. 13, 2023

Team **Infel=Phira**

① Data stored in the database

Data will be retrieved from the dataset (we will mention it later), and basically form a table:

videoId	VARCHAR(20)
title	VARCHAR(255)
publishedAt	TIMESTAMP
channelId	VARCHAR(50)
channelTitle	VARCHAR(255)
categoryId	INT
trendingDate	DATE
tags	VARCHAR(255)
viewCount	INT
likes	INT

Also, the registration-related information will also be recorded in the database, which requires further design in the part of Stage 2.

② Basic function of the web app

1. Users can view trending YouTube videos from different regions by the keyword search.
2. Users can filter videos by various attributes (e.g., regions, categories, dates, tags).
3. Users can sort videos by various attributes (e.g. views, likes, comments).
4. Users can obtain statistics and comparisons on the bunch of selected videos.
5. Users can register for an account to save the bunch history.
6. Users can leave comments on the videos or the bunches.

③ Creative components of the web app

We will place our recommendation function during usage to help improve user experience, consid-

ering user's operations history including their likes, keywords serched, and filter chosen. It's cool to have an recommender accompanied while exploring our website. We will probably invoke an existing model to help us deal with users' requirements.

④ Project Title

Tube=Phira: Youtubers' Seed of Creation

⑤ Project Summary

This project is designed to provide effectively guidance on how and when to public videos to some non-professional YouTuber. We aim to use this dataset of YouTube's top daily to analyze the factors other than its content that influence a video's popularity. And make it clear that how to make a video more popular.

⑥ Description of an application

This project focus on providing suggestions to YouTuber to make their videos more popular. Through analysis of YouTube Trending Video Dataset, we try to figure out how title, published time, channel title, tags and many other factors affect the popularity of videos. This project intends to use statistics to draw specific conclusions about the effect of these factors on popularity.

For example, which kind of videos are more likely become popular, live, sports or video games? And for titles, whether a summerized title or an emotional one will be more appealing to the audiences? Figure out the statistical difference in popularity between videos posted during lunch breaks and after work in the evening. And make it clear that how different kinds of tags and the numbers of tags have an impact on the video recommendation algorithm. Audiences will prefer a specific channel name, like "CTV news", or the name with no specific meaning like "Mr. Kartoski", or even "ATosMElis". In addition to these examples above, this project will conduct a comprehensive summary and analysis of various factors, and provide effective suggestions for YouTube videos.

⑦ Usefulness of the application

Our application is designed to analyze the number of plays and like in relation to other items, which will instruct the creators and authors to create videos that can gain more plays and likes. We will analyze the data in the YouTube Trending Video Dataset, which provides the top trending video on the YouTube platform. And from those videos, we can use SQL to find their common characteristics, including the forms of display, the main topics and so on. Thus, we can use the information to

guide the creators to increase their ability to create the videos with higher plays and likes. Nowadays, there are some similar application:

1. **YouTube Analytics:** It provides detailed data on audience interaction, viewing time, audience geographic location, and more. Publishers can analyze this data to determine which video types or themes perform better in attracting the audience, and how to improve video elements to increase likes and views.

2. **Google Analytics:** Although primarily used for website analysis, Google Analytics can also be applied with websites related to video content. It can provide information about viewer engagement, conversion rates, and website traffic to help publishers understand how viewers interact with their video content. Compared to our chosen application, it lacks the ability to analyze the hot topic and forms, which will lead to rigid imitation.

3. **Facebook Insights:** Facebook Insights provides a wealth of data visualization charts and graphs to visually present performance data about pages and ads. These charts include information about page likes, active users, post interactions, video views, AD click-through rates, and more. But compared with our application, it lacks the ability to guide the creators and give them suggestions about creation.

⑧ Realness of the application

The dataset is downloaded from
`https://www.kaggle.com/datasets/rsrishav/youtube-trending-video-dataset`.

This dataset comprises daily trending YouTube video data spanning several months and ongoing updates. It covers 11 different regions: IN (India), US (USA), GB (Great Britain), DE (Germany), CA (Canada), FR (France), RU (Russia), BR (Brazil), MX (Mexico), KR (South Korea), and JP (Japan). For each region, there are records for up to 200 trending videos per day.

The dataset provides detailed information for each video, including video title, channel title, publish time, tags, views, likes, description, and comment count.

Additionally, there is a category_id field in the dataset, and to obtain information about the specific categories associated with a video, we can reference an associated JSON file provided for each of the 11 regions in the dataset.

⑨ Functionality offered by the website

1. search - SELECT

User can apply search with the search bar, in either natural language to be roughly matched or prompts / tags for more precise ones. Filters can be added optionally to make the search more reliable and customized.

2. register / post comments - INSERT

User can register for new accounts, which would insert the entries into the database, and every qualified registered user can also make comments on the videos or the bunches they create.

3. make changes - UPDATE

User can change tags if they are not precise, and they may also fill in or modify their user profiles, which make updates to the database.

4. withdraw - DELETE

User can cause a database deletion by withdrawing the comments, or leaving the site with their account fully deleted.

⑩ Project work distribution

Lin Shihan - Team management, DB structure designing, database (& front-end) programming.
Cui Xiaotong - DB structure designing, front-end programming.
Li Mofei - DB function designing, database programming.
Lin Yuxuan - User need analysis, module maintenance, front-end programming.

[YouTube-like Color Scheme]

Home

Different Meta-categories (Similar to filters; Mainly for theme)

Tube=Phira

Logo

text / prompt input

Search Bar

PUBLISH YEAR
- [x] 2023
- [-] 2022
- [ ] 2021
- [ ] 2020-

CATEGORY
- [ ] Sports . . .
- [x] Cooking
- [ ] Songs . . .
- [ ] ...

Scroll

Filters

Video #1
Video #2

American Foods

(Other Archives)

. . . . .

. . . . .

Popular tags:

. . . . .

[paddings]