

Market potential of Trending Videos

Report Automation

@Zhenev

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Context

- What – Sterling & Draper advertising agency
- Task – Analyzing Trending Videos
- Pain – Time-consuming
- Solution – Automation

Every week, my colleagues, Melanie and Ashok, need answers to the same questions...



What video categories were trending last week?



How were they distributed among various regions?




What categories were especially popular in the United States?

I decided to automate the reporting

First, I have discussed the draft dashboard and technical requirements with the users.

Then, I have found out where and how the necessary data is collected and how it can be transformed with the database administrators.

Finally, I have started developing the pipeline and dashboard.



The business requirements formulated to meet the basic goal of analyzing trending-video history on YouTube

- The dashboard will be used at least once a day
- Video ads planning managers are target dashboard users
- Dashboard data content should include:
 - Trending videos from the past, broken down by day and category
 - Trending videos, broken down by countries
 - A table of correspondence between categories and countries



The technical side had to support the video ads planning process

- Parameters according to which the data is to be grouped:
 - Trending date and time
 - Video category
 - Country
- The data
 - Trending history — absolute values with a breakdown by day (two graphs: absolute numbers and percentage ratio)
 - Events, broken down by countries — relative values (% of events)
 - The correspondence between the categories and countries — absolute values (a table)
- All graphs are equally important

The data engineers created an aggregate table called ``trending_by_time`` and store it in the ``data-analyst-youtube-data`` database

Data update interval: once every 24 hours, at midnight UTC

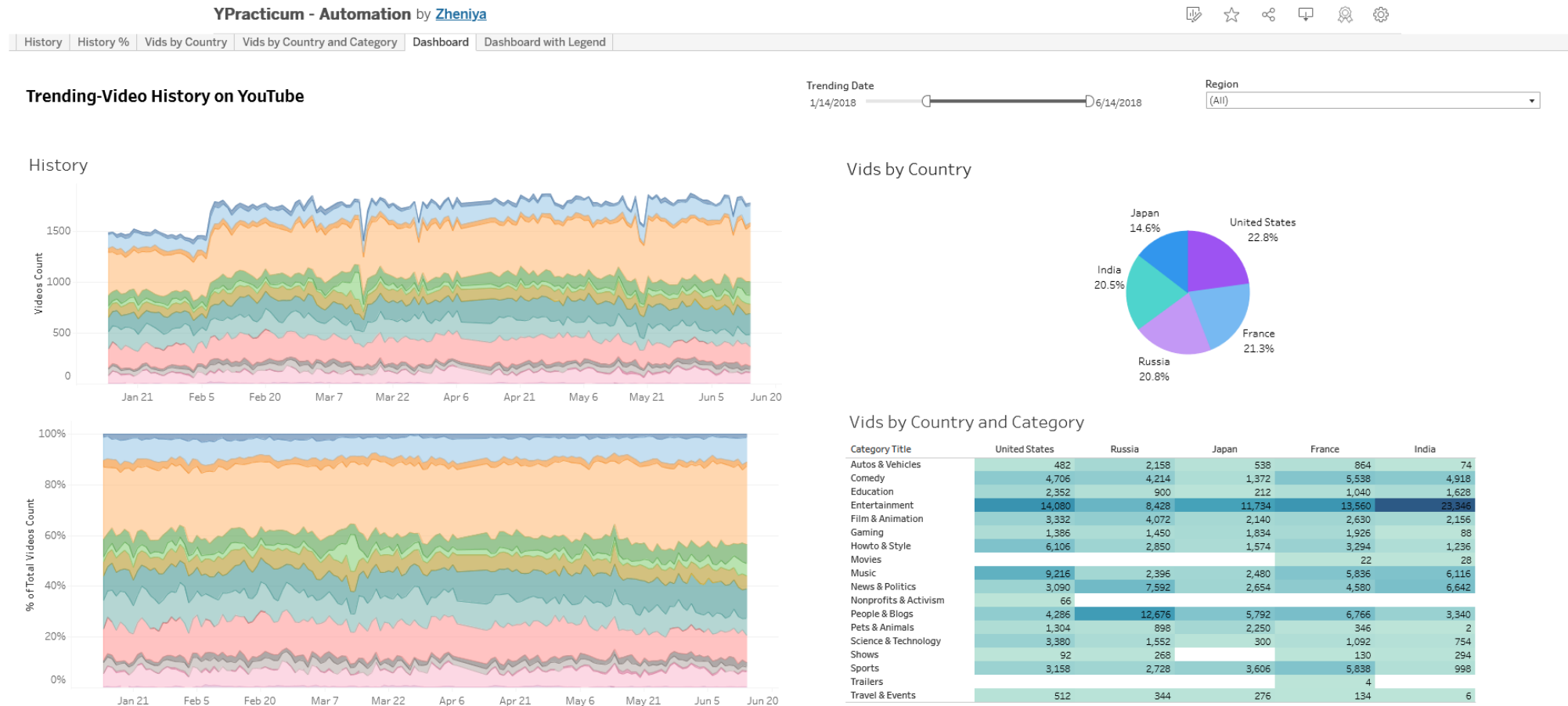
Aggregate table structure:

- `record_id` — primary key
- `region` — country/geographical region
- `trending_date` — date and time
- `category_title` — the video category
- `videos_count` — the number of videos in the trending section

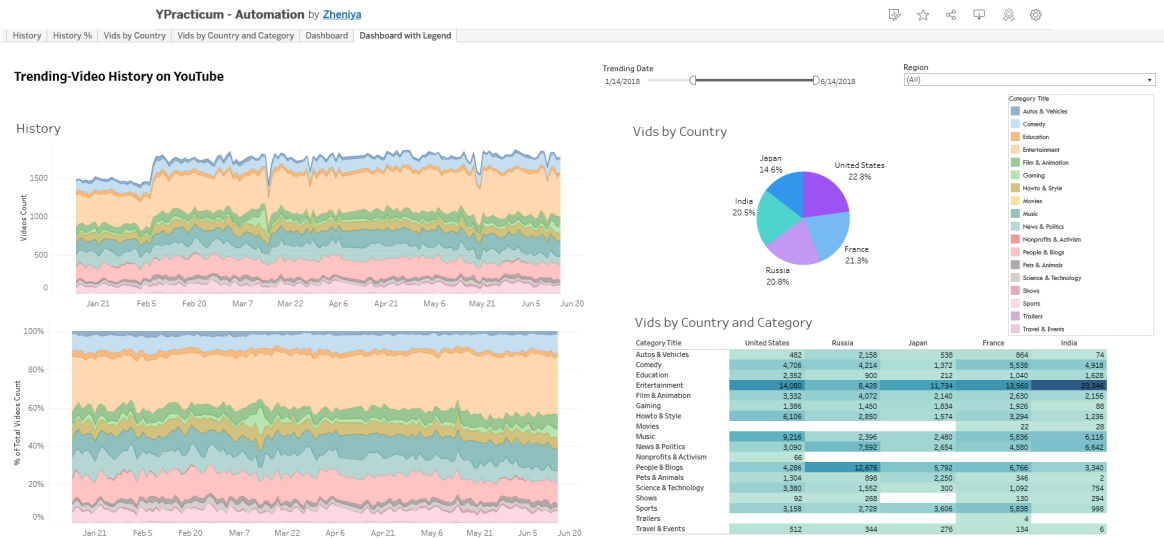
Dashboard title and description	Date and time filter	Country filter
"Trending History" chart – trending videos split by trending time and category (absolute values, stacked area chart)	"Trending Vids by Country" chart – trending videos split by country (relative values, pie chart)	
"Trending History, %" chart – trending videos split by trending time and category (% of total, stacked area chart)	"Trending by Country and Category" table. Columns should stand for countries, rows should indicate trending categories. Table cells should contain absolute numbers of trending videos. Table cells should be highlighted relative to their values (highlight table).	

Dashboard layout was designed to include date/time and country controls in its upper part

Resulting Dashboard – Initially Suggested Layout



Additionally, an option has been proposed to explicitly use category legend and to apply category and country highlighting and filtering across all the graphs on the dashboard



Test-driving the dashboard!

- Which video categories trended most often?
- How were they distributed among regions?
- What categories were especially popular in the United States?

TOP 5 across regions

- Entertainment*
- People & Blogs
- Music
- News & Politics
- Comedy

For the whole period, videos from the U.S., France and Russia have appr. even shares (~20%) with India having slightly higher share of around 25% and Japan slightly lower share of 15%

TOP 5 in the U.S.

- Entertainment*
- Music
- How-to & Style
- Comedy
- People & Blogs

In the U.S., people seem to be less in News & Politics and more in practical skills.

* The `Entertainment` category does not include `Comedy`, which comprise a separate category

Recommendations

- Following the dashboard test drive, I would recommend to merge the absolute and the relative graphs with the trending history on the left side of the dashboard by applying selector for choosing the viz mode and utilize the bottom left part of the screen to explicitly show trending categories as a vertical or a horizontal bar chart.

Enjoy
the
results!

[LINK](#)