

Project Proposal: MyTube

Project Title: MyTube

Summary/Description

MyTube is a platform designed for content creators and marketers. It has the potential to be a powerful tool designed to offer features that help users make informed decisions of their video content or marketing strategy. After secure user authentication, users can tap into a dynamic feed of real-time trending videos, segmented by categories, tags, or even specific creators. What sets this app apart is its focus on actionable insights.

Our web application is designed to be user-friendly, offering an intuitive interface that even first-time users would find it easy to navigate. The utility of this app offers analytics dashboards that provide an in-depth look at how videos and categories are trending over time, providing valuable insights for content creation and marketing strategies. By examining this data, creators can pinpoint the best time to release new content, or which topics are gaining traction. Marketers, too, can identify high-potential topics or creators to partner with.

Usefulness

There are several similar platforms that offer YouTube video analytics. However, MyTube differentiates itself in several key ways.

- Real-time trending feed: Users may see updated trending
- Segmentation: Users can segment videos by different categories, tags, or creators.
- Actionable Insights: The analytics offered by our model will help users make concrete decisions, such as the best time to post videos.

Realness

- Dashboard
- User Created Reports
- Machine Model Suggested Solutions
- Search and Filter
- Settings and Customization

Basic Functionality (TODO)

Dashboard

- Real-time display of trending videos and categories
- User friendly UX

Analytics Reports

- In-depth metrics on views, likes, comments, and shares
- Real data from database

Predictive Analytics

- Machine learning forecasts of upcoming trends
- Presents actionable recommendations based on past data

Search

- Functionality for videos, creators, and categories

Filter

- Multiple filter options for more targeted data

History Page

- Save and access past trends, reports, and analyses

Settings and Customization

- Personalize how data can be displayed
- Integrate additional APIs for specialized metrics

Creative Component

While many platforms might provide a look back at what has happened or what's currently happening, MyTube aims to give users a glimpse into the future, allowing them to be proactive rather than reactive. This will be done through a specifically designed predictive analytics model within the platform.

- **Data Collection:** MyTube continuously gathers and updates data on video engagement metrics such as view counts, like ratios, comments, and shares. This data will serve as the input for our machine learning model.
- **Model Training:** Our machine learning algorithms will be trained on this historical data to understand the patterns and factors that contribute to a video or topic trending. We are currently thinking about models like Decision Trees, Random Forest, or even Neural Networks could be employed depending on the complexity.
- **User Interface:** The predictive analytics feature will be integrated into the existing dashboard. Users will have the option to switch between real-time analytics and predictive analytics views.

DataSet Used

For our data set, we chose the Youtube dataset given by the TAs. The link for the dataset is as follows:

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

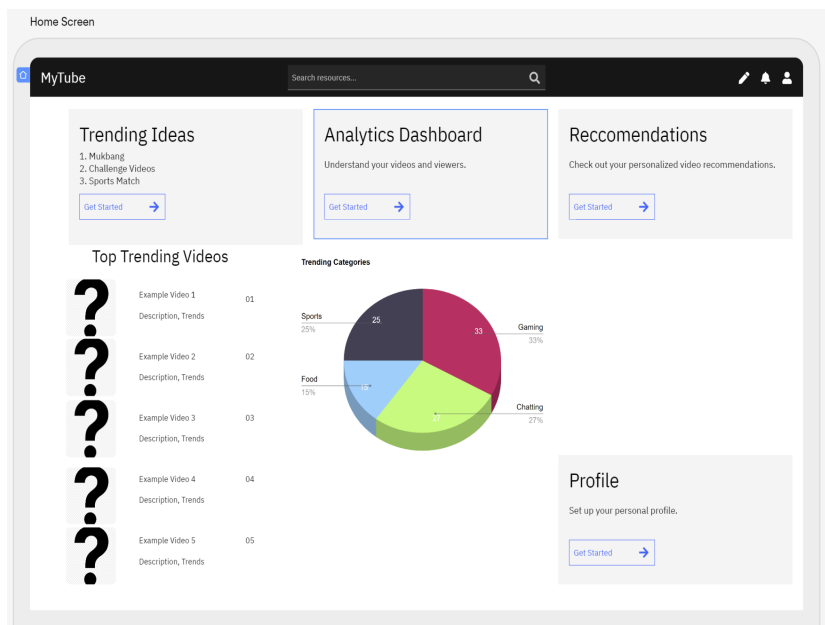
Here is a break down of the dataset from Kaggle and the data types we think it might use.

Columns	Data Type
video_id	VARCHAR
title	CHAR
publishedAt	DATE/TIME
channel_id	VARCHAR
channelTitle	VARCHAR
category_id	VARCHAR
trendingdate	DATE
tags	VARCHAR
view_count	INT
likes	INT

Low Fidelity UI MockUP

The mockup shows a login page for 'MyTube'. It features a dark header with the 'MyTube' logo. Below the header, the text 'Welcome Back' is centered. There are two input fields: 'Email' with the placeholder 'Enter your email address' and 'Password' with the placeholder 'Enter your password'. A blue 'Log In' button is positioned below the password field. At the bottom, there is a link for 'Forgot your password?'.

This page represents our basic authentication page. It will be a simple email and password combination where we can store users in a SQL database table.



This will be our main homepage, with tabs to different pages. These include a trending ideas tab, personalized analytics dashboard, as well as recommendations for the user. It will also have certain statistics regarding the user, and top trending videos.

Project Work distribution

Scrum Master/Data Scientist: Ricky

Responsibilities

- Build and train machine learning models for trend prediction and other analytics
- Implement sentiment analysis on comments and likes

Front End Developer: Keshav

Responsibilities

- Design user interface with main focus on usability and experience
- Implement front end logic to interact with backend
- Ensure web app is responsive and accessible

Backend Developer: Arin

Responsibilities:

- Set up and manage databases to store users and analytics data
- Implement server-side logic for user authentication, data storage, and retrieval

Backend Developer: Dhruv

Responsibilities:

- Ensure data security and optimize for performance
- Collaborate with ML side to integrate ML models into application
- Connect with front end