

ONLINE VIDEO RECOMMENDER SYSTEM USING YOUTUBE API



SHRAVYA NARAYAN SARMA, JANANI NEELAMEKAM, UTKARSH KASANA CSCI 729 – TOPICS IN DATA MANAGEMENT

GOAL

To develop an online video recommender system using the YouTube API.

OVERVIEW

- Recommender systems are a type of information filtering system which could predict what a user might prefer with respect to an item which could be a video or a news article.
- This can be categorized into two forms collaborative recommendations and content based recommendations. Collaborative approach pertains to building a system based on the user's past references in collaboration with similar decisions made by other users and this approach is used as a basis in order to recommend or suggest items based on the user's interest. Content Based approach focuses on the characteristics of an item rather than user's interests.

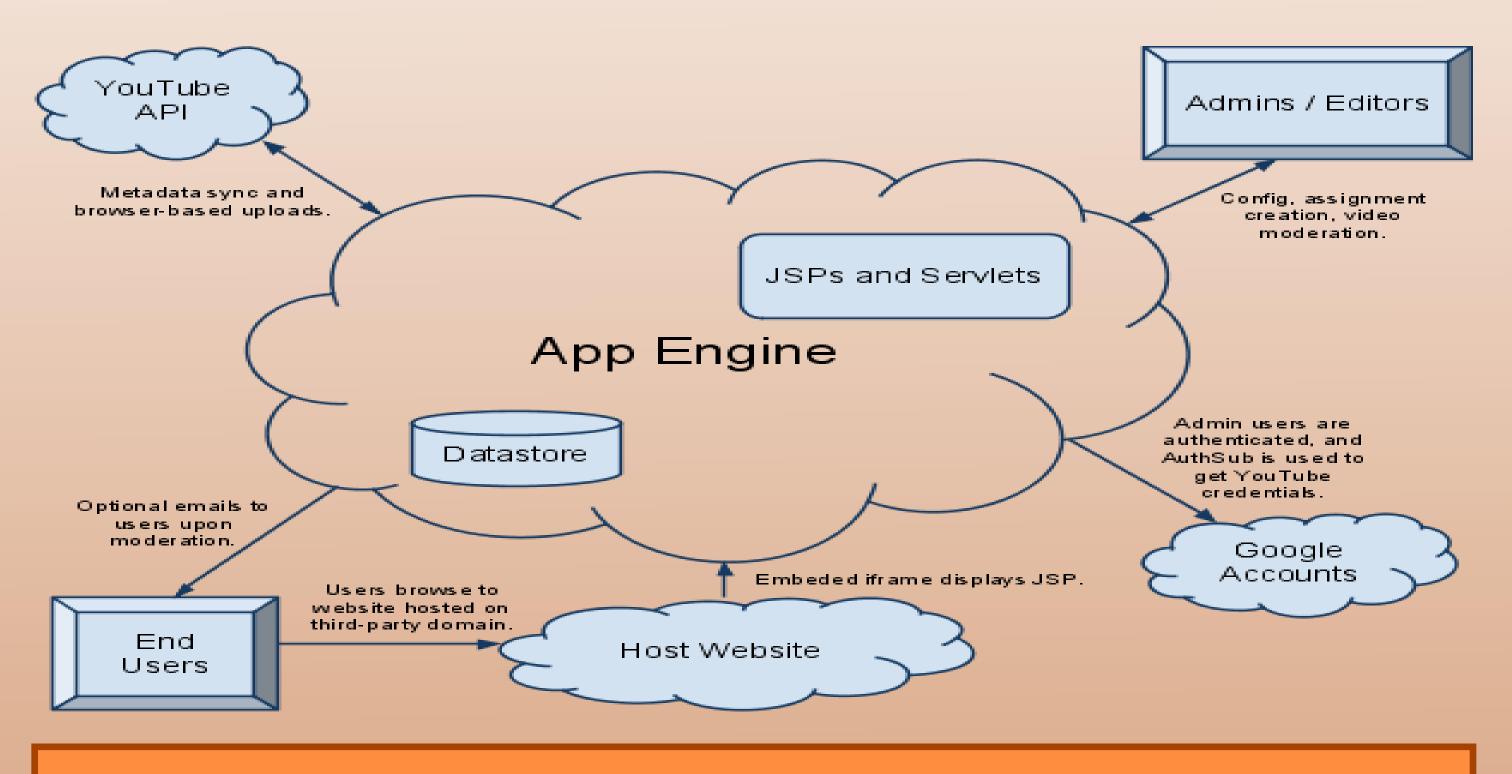
MOTIVATION

- ☐ Video sharing has reached a whole new level.
- ☐ Increase in the usage of smartphones and tablets with cameras.
- ☐ Presents social networking a new outlook where in it is not just limited to sharing images and updating statuses.
- Provides a new interactive platform and aims at providing better ways to communicate with users providing different services.

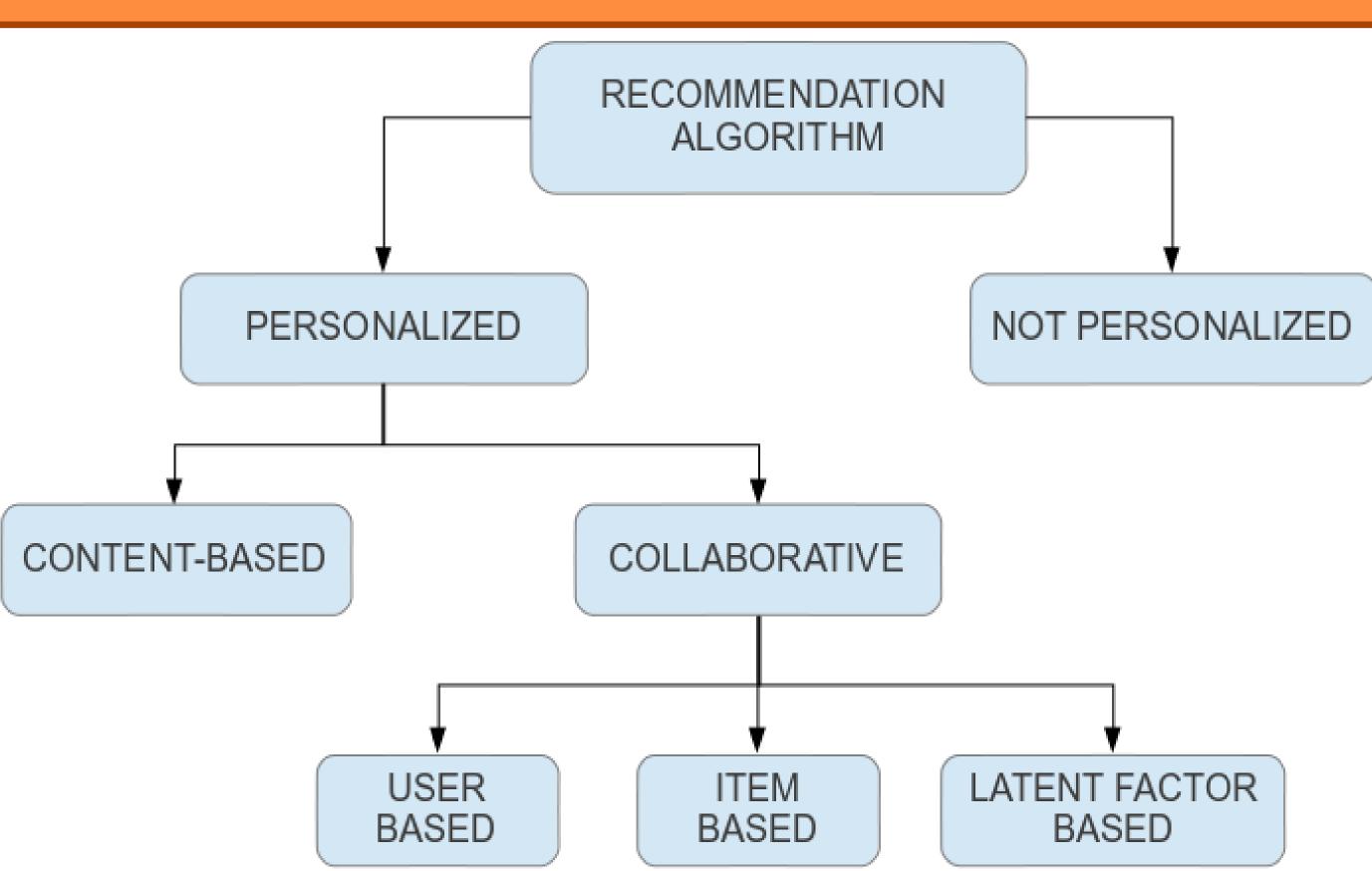
DESIGN AND IMPLEMENTATION

- ☐ The application that we intend to design is based on YouTube video recommender systems.
- In order to implement the application we utilize the YouTube data set and the YouTube API.
- The data set consists of 10 attributes and 3170 records. The description of the data set happens to be with respect to the video id, the uploader's user-name, the age attribute pertains to the number of days lapsed between the day video was uploaded up until February 15th 2007 and a few more. z

ARCHITECTURE



RECOMMENDER SYSTEM



RESULTS

- As stated in the project specification we have built an online recommender system where in we happen to refer the YouTube data set which consists of the usernames of up-loader, the video id, the age, the category, length, views, rate, rating, comments and related ids attributes and so forth.
- Since we utilize the YouTube data API for our current phase of project we did come across various code samples as stated in the YouTube API site and got a chance to utilize the snippet present in the gdata-java-client.googlecode site[1] which has access to a variety of feeds.

FUTURE WORK

- Provide a better interface to the users to interact than the one provided as of now.
- Come up with a better recommendation algorithm than the one provided as of now both in terms of space and time efficiency.
- Come up with better mechanisms to provide recommendations to the users other than the ones provided here in the present project specification.
- Recommending videos that are trending in the locality of the user.

REFERENCES

- [1] Gdata-java-client. http://gdata-java-client.googlecode.com//
- [2] J. Davidson, B. Liebald, J. Liu, P. Nandy, and T. V. Vleet. The youtube video recommendation system. ACM Trans. Program. Lang. Syst., pages 293–296, November 2010.
- [3] R. Zhou, S. Khemmarat, and L. Gao. The impact on YouTube video recommendation system on video views. ACM Trans. Program. Lang. Syst., pages 404–410, September 2010.
- [4] <u>code.google.com</u>
- [5] http://itv.paolocremonesi.org/wiki/recommender-systems/algorithms/collaborative