CS410 Project Proposal

Team Name: West Coast
Team member names: Zhuoya Chen, Franco Hui, Bocheng Yin

Overview

In your proposal, please answer the following questions:

1. What are the names and NetIDs of all your team members? Who is the captain? The captain will have more administrative duties than team members.

   Captain: Zhuoya Chen, NetID: zhuoyac2
   Team member:Franco Hui, NetID: fhui2
   Team member: Bocheng Yin, NetID: by16

2. What is your free topic? Please give a detailed description. What is the task? Why is it important or interesting? What is your planned approach? What tools, systems or datasets are involved? What is the expected outcome? How are you going to evaluate your work?

   Our topic is recommendation or sentiment analysis of music using Spotify API and Musixmatch API. The user will enter a song name and we will return a song list based on the sentiment score of the song. The user will then rate the recommended songs. We are using the datasets from Musixmatch and we will evaluate our system by comparing our results with theirs.

3. Which programming language do you plan to use?
   Python

4. Please justify that the workload of your topic is at least 20*N hours, N being the total number of students in your team. You may list the main tasks to be completed, and the estimated time cost for each task.
   See the below development workflow for more details

Development workflow

workflow

1)

Enter a song name, if the song is in the database of spotify, return with a sentiment score in the range of [-1,1] based on the analysis of its lyric. Validate the result with Spotify's sentiment analysis using Musixmatch API.
Estimated time cost: 25 hours

2)
Return a top list of 20 songs with a similar sentiment score, and visualize this list. These songs can be grouped by release years, Genres, Artist, and etc.
Estimated time cost: 15 hours

3)
The user can rate the recommended song by comparing it to the searched song. Give a score from 1 to 10. 1 is "strongly disfavor"; 10 is "strongly favor". Based on the likelihood score and input song, the tool provides relative recommendations of 20 songs.
Estimated time cost: 10 hours

4)
Evaluate our work using the training data for sentiment score from the Spotify Musixmatch API
Estimated time cost: 10 hours

Sentiment analysis tools

1) scikit?
https://github.com/lukas/ml-class/tree/master/projects/5-sentiment-analysis
https://www.youtube.com/watch?v=qoyp8pBtCZ0

2) NLTK
https://www.nltk.org/
https://www.youtube.com/watch?v=QpzMWQvxXWk