

CS410 – PotterHeads – Project Proposal

Team

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Topic & Task

Accio Songs - Music Information Retrieval

Description:

The world wide web is full of information. So much that sometimes, we can get lost trying to find we are looking for. For specific needs such as music related searches, it can involve visiting many webpages to find music videos, lyrics, sheet music, and artist biographies, all related to the same song.

Approach:

We propose to create a search engine tool specific to music information retrieval. We will take advantage of the already expansive resources available online and condense it into a user-friendly tool designed for musically inclined individuals.

Task	Estimated Time (hours)
Design UI	5
Resource Identification	5
Creation of Collection/Corpus	5
Design Search and Mining Engine	10
Develop Search and Mining Engine	10
Develop UI	10
Integration of UI with Engine	5
Testing	10
Total	60

Programming Language & Tools

We will consider the use of below mentioned programming languages and tools. We will also explore the possible usage of some libraries through our technical reviews.

- Python and Flask
- JavaScript
- Angular
- Apache Lucene Or Solr
- Gensim

Datasets:

- <http://millionsongdataset.com/musixmatch/>
- <https://www.hooktheory.com/theorytab/common-chord-progressions>
- <https://www.ultimate-guitar.com/>
- <https://www.last.fm/>
- <https://spotipy.readthedocs.io/en/latest/>

APIs

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|--------------------------------------|--|
| • Shazam API | • iTunes API |
| • TheAudioDB API | • Spotify API |
| • Deezer API | • LastFM API |
| • Mourits Lyrics API | • 30,000 radio stations and music charts API |

Outcome & Evaluation

We anticipate producing a useful web search that will take the input of a song title, and return relevant information such as lyrics, chords, sheet music, videos, audios, artist biographies, streaming options, and other applicable resources.

The functionality of our tool will be evaluated using sets of randomly selected test inputs, including variability across song genres. Explicit feedback will be used through the testing phase.