

Moodify! Spotify Mood Playlists



What is it?



Playlist generation based
on user's mood



Obscure Playlist: Playlist
of songs which are less
popular



Multiple random playlists
from similar set of songs
based on user preference



On the spot playlist
creation



Implemented using
clustering techniques

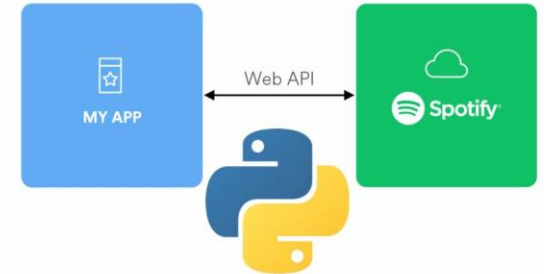


Why is it interesting?

- Different from Recommendation System
- Only need one song to generate Mood Playlist
- Mood specific songs using mood attributes
- Connect audience to less popular songs
- "Similarity thresholds" as parameters can be changed

Data

Used Two data sources



Playlist Generation Data – Publicly Available GitHub repository

- Collected using Spotify API
- 32K songs from 10K artists
- Future – Add more songs by collecting from Spotify API

Query Data - Spotify web API

- Spotify API to retrieve attributes of input song for prediction

Track	Energy	Danceability	Speechiness	Acousticness	Instrumentalness	Liveness	Valence	Tempo	Loudness
Shy Guy	0.56	0.67	0.04	0.79	0.00	0.09	0.63	96	-6
Alaska	0.38	0.84	0.2	0.34	0.003	0.1	0.43	85	-10
Justified	0.64	0.65	0.08	0.54	0.02	0.02	0.23	90	-6.5
Sacrifice	0.23	0.34	0.1	0.76	0.005	0.001	0.5	81	-18
Colorblind	0.16	0.49	0.03	0.7	0.00	0.003	0.3	112	-9.6
Nowhere	0.23	0.77	0.04	0.93	0.007	0.18	0.44	100	-17.9
Silly Girl	0.04	0.48	0.06	0.94	0.0009	0.12	0.13	79	-22

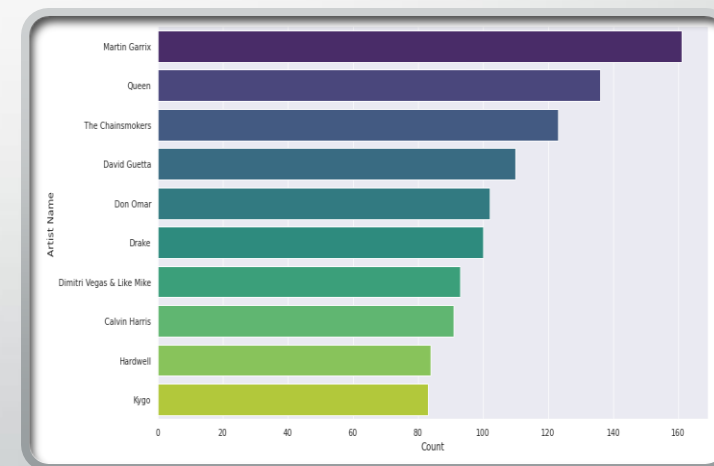
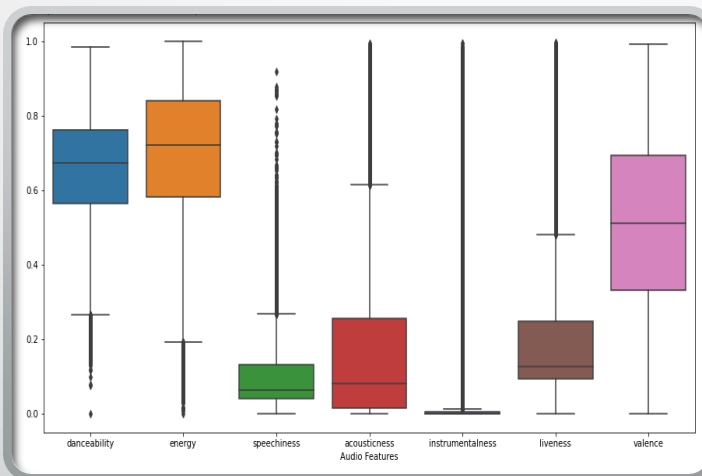
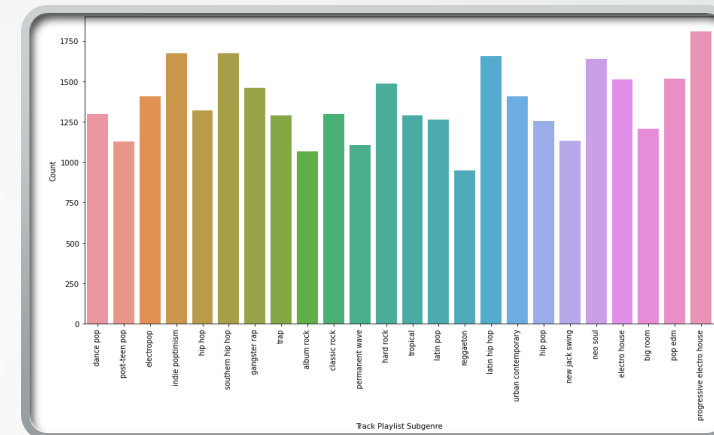
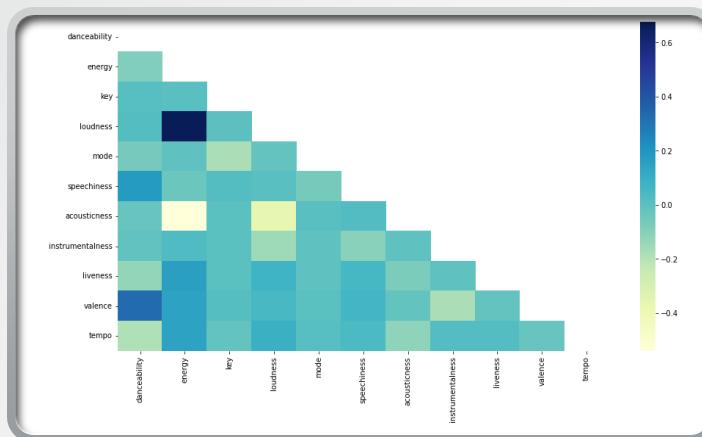
Data Visualizations

Correlation Matrix

Attributes Distribution

Pre-Existing Playlist Subgenre

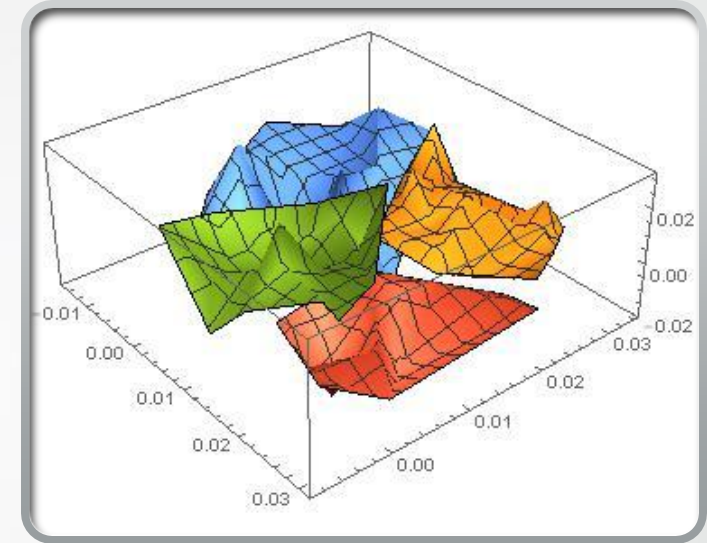
Top 10 Artist



Clustering Methods

Two popular clustering techniques have been explored :

- K-Means Clustering
- Hierarchical Clustering



Clustering Experiments



Scaling



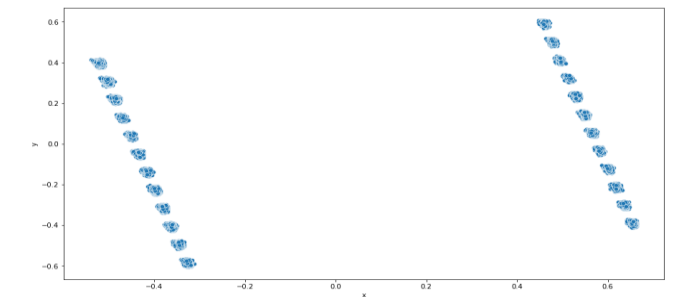
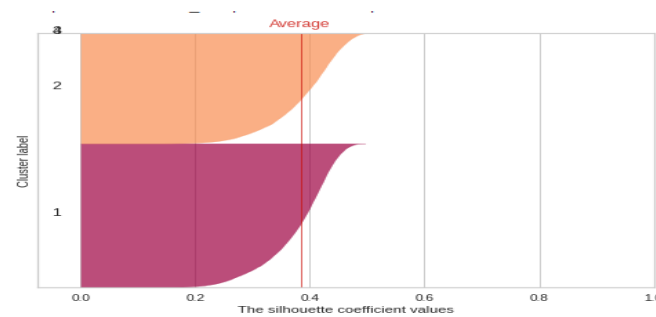
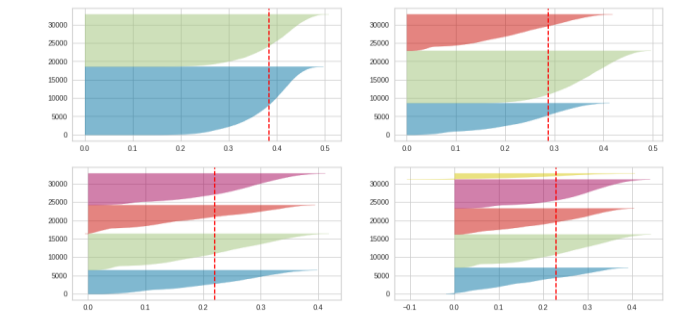
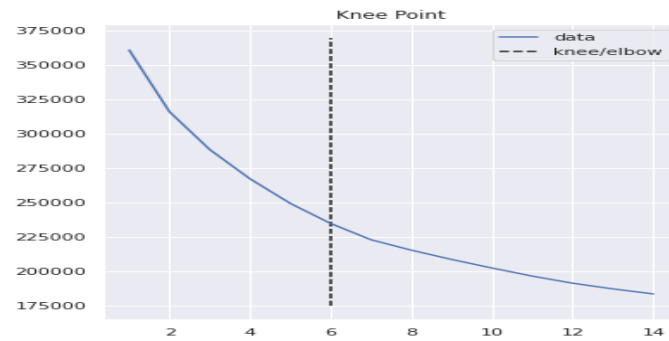
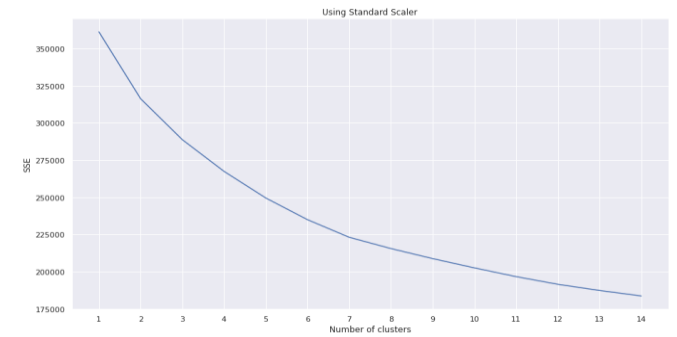
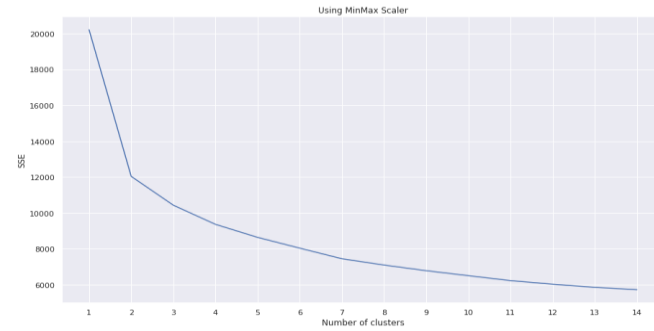
K-Means



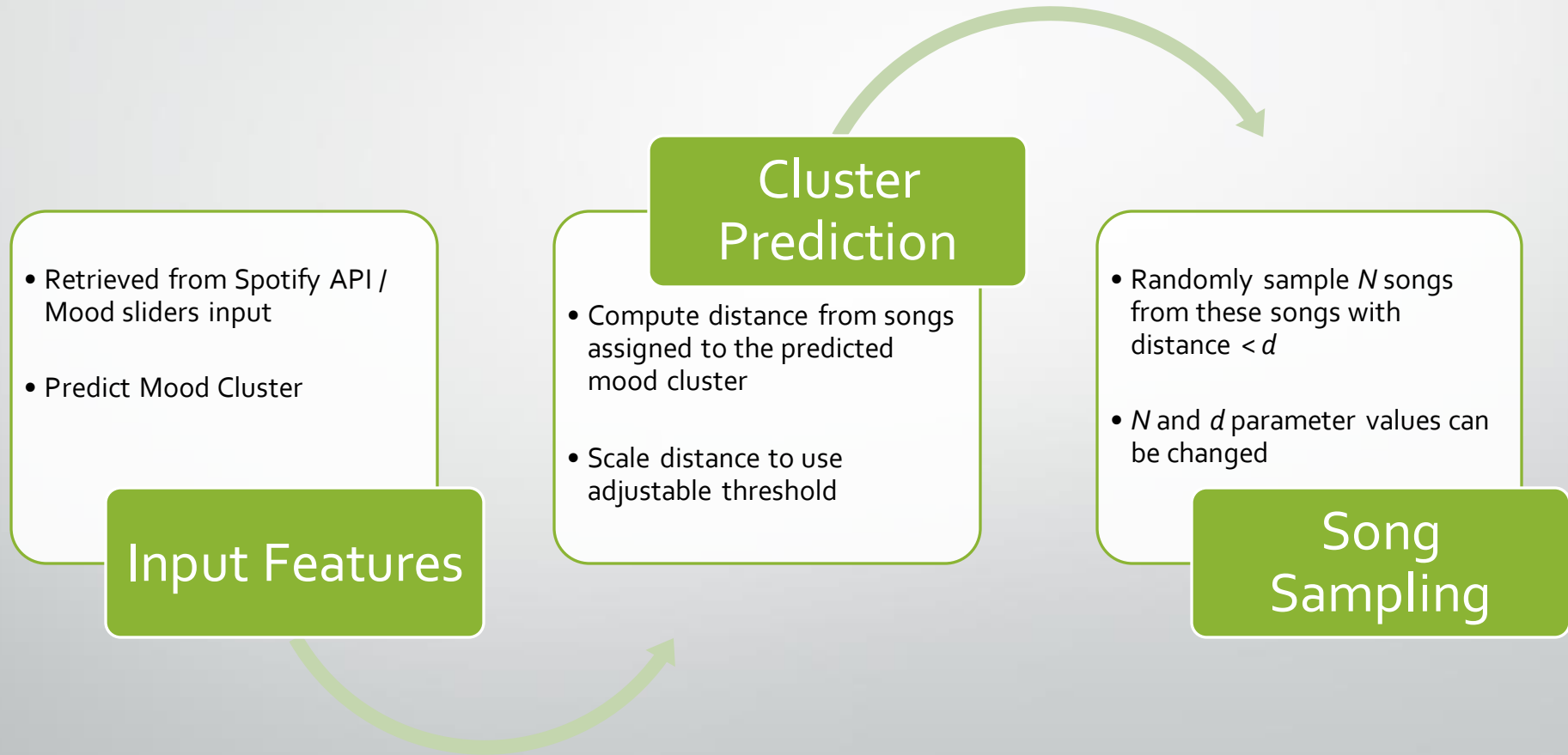
Hierarchical



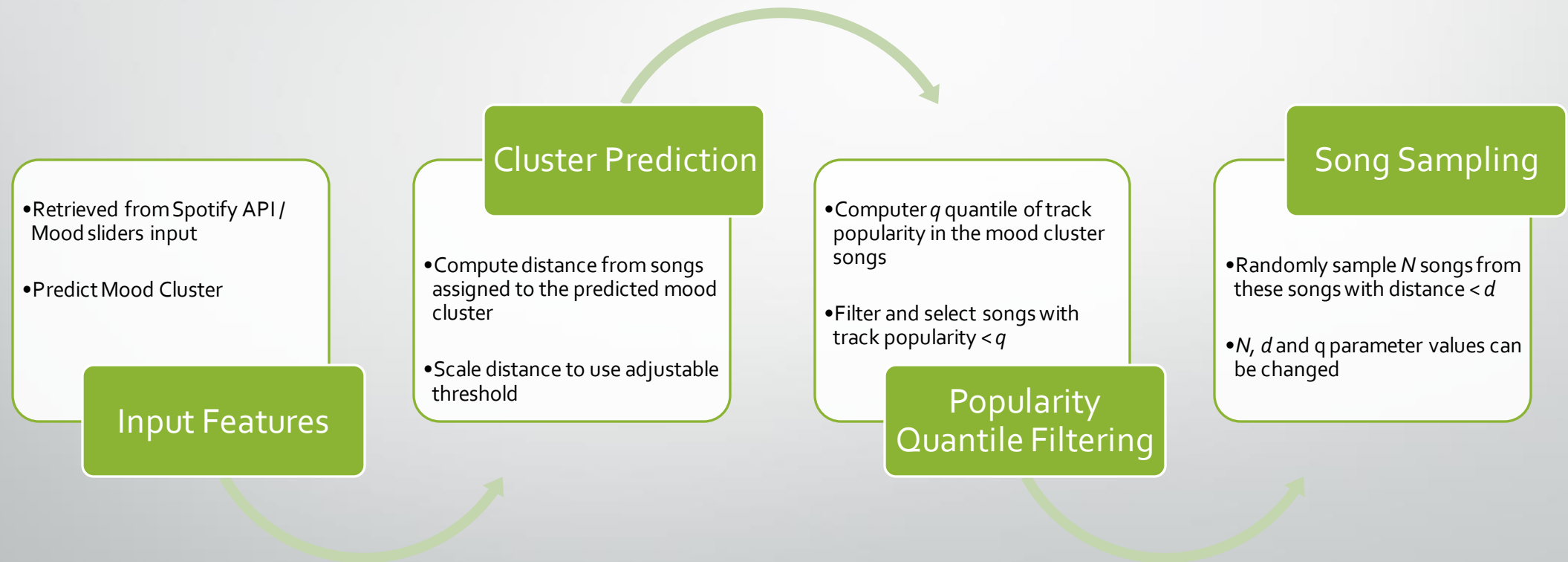
PCA



Playlist Generation – Normal Playlist



Playlist Generation – Obscured Playlist



Cluster Snapshots



(High Energy, Low Acousticness)

- Dreams Of You (feat. Rae Morris)
- Shades Of Voices (Original Mix)
- Spirit Of Freedom
- Mercury
- Nothing but the Beat (Ultimate Edition)
- Bromance - Avicii Remix
- Before The Storm



(High Danceability, Low Instrumentalness)

- Funky Friday
- Clockwork
- Sake
- Is That Too Much to Ask (feat. Nina Zeitlin)
- Bad Liar
- Anaconda
- Millions
- Joanna (Drogba) - Remix



(Moderate Danceability, High Energy)

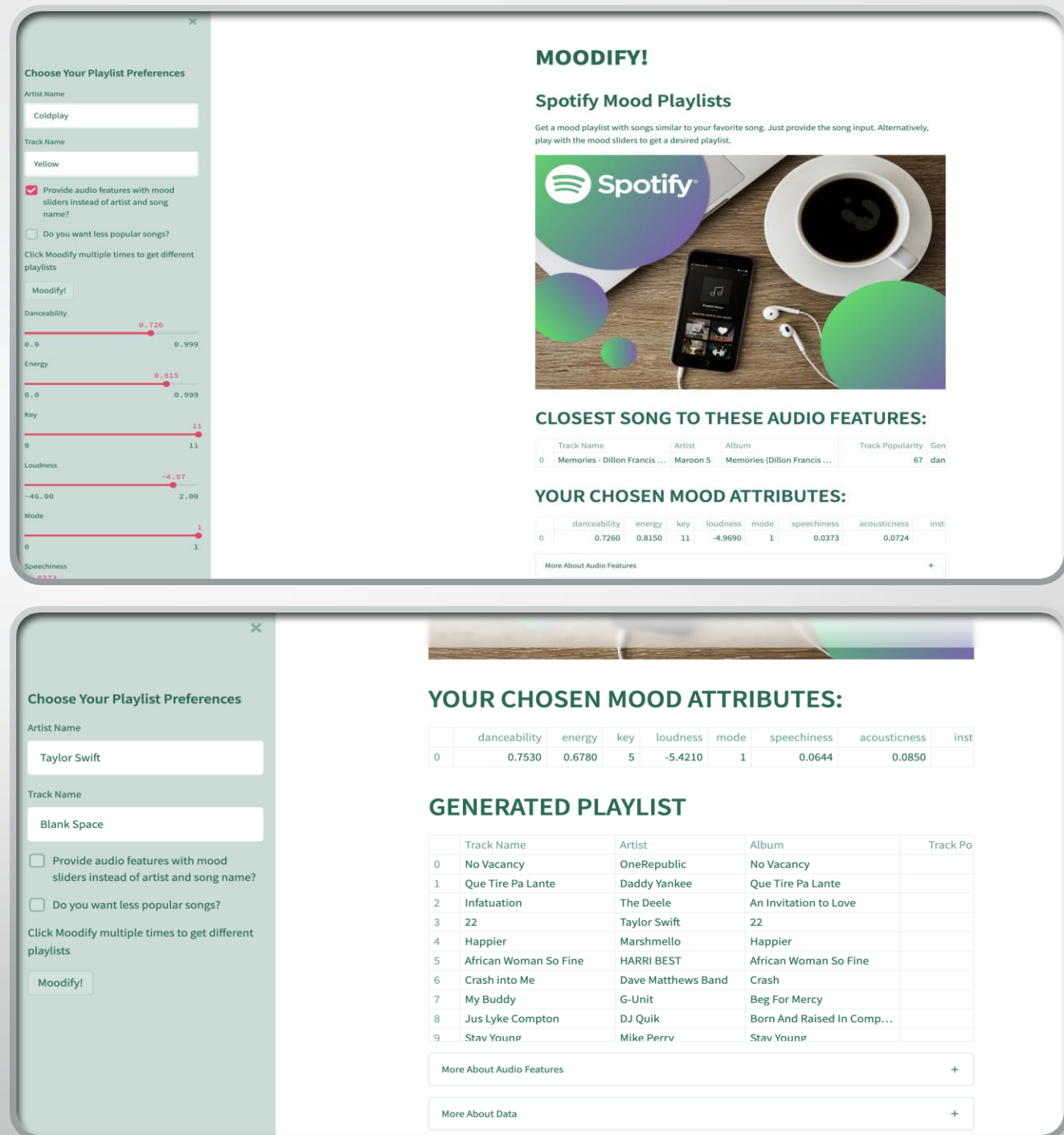
- Feed the Machine
- Hardwired
- Creep - The Four Performance
- Spit Out the Bone
- Always Forever
- Animal
- Legend
- Mockingbird



(High Acousticness, Low Instrumentalness)

- New Shoes - feat. Shun Murakami
- Memories
- When You Wish Upon A Star
- Gravity
- Zebra
- (No One Knows Me) Like the Piano
- Someone Like You
- Sweet Dreams

Interface





Demo



Future Improvements

Dynamic threshold changing
from user input

Collect more data from Spotify
API to include different
languages like Hindi, Korean etc

Reference

- [Web API Reference | Spotify for Developers](#)
- [tidytuesday/data/2020/2020-01-21 at master · rfordatascience/tidytuesday · GitHub](#)