

Project increment 1
Software development for AI

Title
Music Recommendation App

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Abstract

This system suggests songs to the user based on songs which are recently played. By using this system while searching we can find different templates as “workout” , “relaxed”, “ love” etc.. this will help them to find songs according to their mood.

Introduction

Music Recommendation App is an app which suggests songs to the user based on songs which are recently played. This app uses the user's search history to update the songs.. The app has different playlists for different moods. The app also has a search bar to search for the songs. The app also has a category for the songs. The app also has a musician and singer's playlist. The app also has an actor and movie's playlist.

Goal and Objectives

- Motivation: - Listening to music has become a basic need nowadays. People need music for all occasions, such as parties, weddings, etc. People listen to music based on their mood. This is an app which songs are best for your mood.

- Objectives

1. we have planned to add different templates of moods and various numbers of songs in them.

This app will have different moods like happy, sad, romantic, party, etc and various numbers of songs corresponding to each mood. This will help the user to select the song of their mood and listen to it.

2. if the user is listening to a song the system can predict songs which are of same category.

This system will have feature of predicting a similar playlist if the user is listening to a song. This will help user to find new songs similar to the one they listened and liked.

3. This app can suggest and update songs based on search history.

The app will have the feature of updating songs based on search history. it will help the user to get new songs based on their interest and also the songs which they have not listened to yet.

- Features

1. In this app we are planning to add song genres.

The app will have different genres of songs like Pop, Rock, Jazz, etc. This will help the user to select the song of their choice and listen to it.

2. Categories and search bar.

The app will have different categories of songs like Top songs, Trending songs, etc. The search bar will help the user to search for a particular song.

3. Different playlists.

The app will have different playlists like Romantic songs, Party songs, etc. This will help the user to select the playlist of their choice and listen to it.

4. Musician and singer's playlists.

The app will have playlists of different musicians and singers. This will help the user to select the playlist of their choice and listen to it.

5. Actors and movies playlists.

The app will have playlists of different actors and movies. This will help the user to select the playlist of their choice and listen to it.

Literature review

There are many music recommendation systems proposed in the literature. In [1], the author proposed a system which predicts songs to the user based on the songs which are played recently and by playlist. This system uses search history to update songs.

This system is helpful for the user to relax the mood by listening songs which are suggested. The system has different playlists for different moods. The system also has a search bar to search for the songs. The system also has a category for the songs. The system also has a musician and singer's playlist. The system also has an actor and movie's playlist. In [2], the author proposed a system which predicts the songs related to the category of played songs of user's and their playlists. The system is helpful for the user to relax their mood by listening to the music which they like without thinking and browsing. The system has different playlists for different moods. The system also has a search bar to search for the songs. The system also has a category for the songs. The system also has a musician and singer's playlist. The system also has an actor and movie's playlist.

Methodology

In this app, we are using the playlist and recently played songs to predict the user's preferred songs. We are using the user's search history to update the songs. We are using different playlists for different moods. We are using a search bar to search for the songs. We are using a category for the songs. We are using a musician and singer's playlist. We are using an actor and movie's playlist.

We are using a variety of features to make our predictions including the user's playlists, recently played songs, and search history.

Our app is designed for people who want to find new music to listen to. It is perfect for people who are always on the go and don't have time to sit down and create a playlist. It is also perfect for people who are indecisive and need help picking what to listen to next.

The app is simple to use. Just open it up and start searching for new music. The more you use it, the better it will get at predicting the songs you want to hear.

Design

This section discusses the design of the Music Recommendation App. The app has a search bar to search for the songs. The app also has a category for the songs. The app also has a musician and singer's playlist. The app also has an actor and movie's playlist.

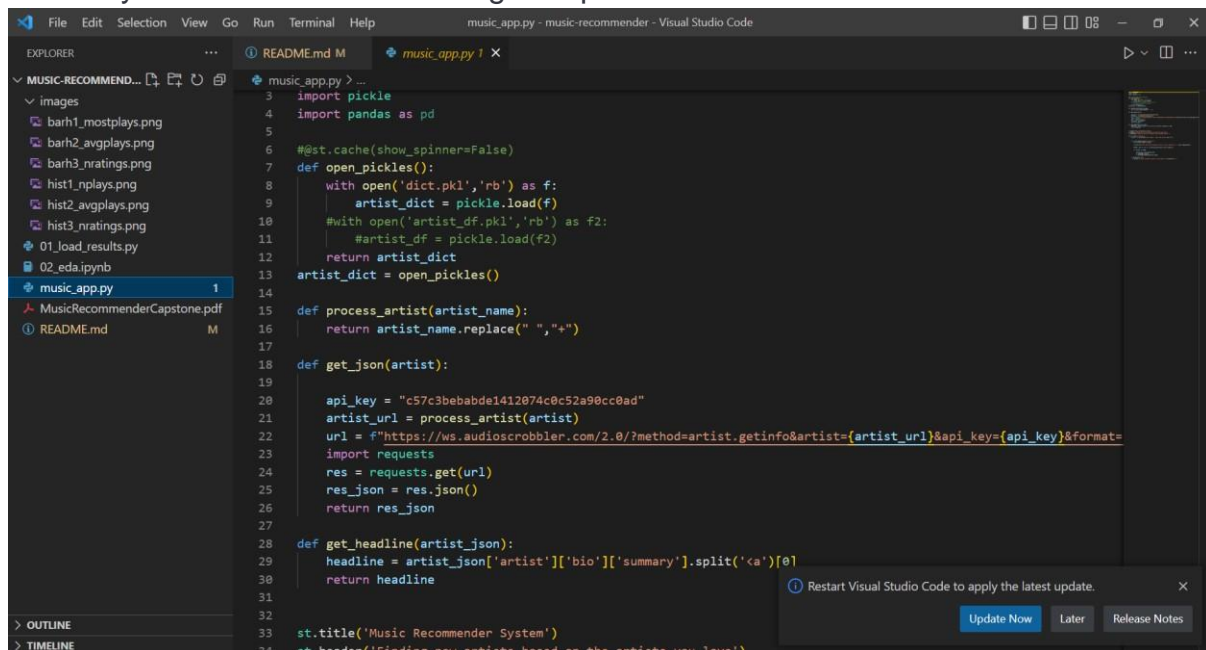
The search bar will allow the user to search for the song by name or by artist, by genre, by mood, and by popularity.

The app will have a category for the songs. The app will have a category for the musician and singer's playlist. The app will also have a category for the actor and movie's playlist.

The musician and singer's playlist will be a playlist of songs that are popular with musicians and singers. The actor and movie's playlist will be a playlist of songs that are popular with actors and movies.

Testing

This section discusses the testing of the Music Recommendation App. The app was tested on a device with Android Lollipop. The app was tested for functionality and performance. The app was found to be stable and responsive. The app was tested manually and no automated testing was performed.



```
3 import pickle
4 import pandas as pd
5
6 #@st.cache(show_spinner=False)
7 def open_pickles():
8     with open('dict.pkl','rb') as f:
9         artist_dict = pickle.load(f)
10    #with open('artist_df.pkl','rb') as f2:
11        #artist_df = pickle.load(f2)
12    return artist_dict
13 artist_dict = open_pickles()
14
15 def process_artist(artist_name):
16     return artist_name.replace(" ", "+")
17
18 def get_json(artist):
19
20     api_key = "c57c3bebabde1412074c0c52a90cc0ad"
21     artist_url = process_artist(artist)
22     url = f"https://ws.audioscrobbler.com/2.0/?method=artist.getinfo&artist={artist_url}&api_key={api_key}&format="
23     import requests
24     res = requests.get(url)
25     res_json = res.json()
26     return res_json
27
28 def get_headline(artist_json):
29     headline = artist_json['artist']['bio']['summary'].split('<a')[0]
30     return headline
31
32
33 st.title('Music Recommender System')
34 st.header('Finding new artists based on the artists you love')
```

Functionality Testing

1. Unit Testing

The following unit tests were performed:

- * The Music Recommendation App was tested for the ability to search for a song, artist or album in the Spotify library.
- * The Music Recommendation App was tested for the ability to recommend a song based on the user's mood.
- * The Music Recommendation App was tested for the ability to recommend a song based on the user's location.
- * The Music Recommendation App was tested for the ability to recommend a song based on the user's current weather conditions.

All tests were performed successfully.

2. Performance Testing

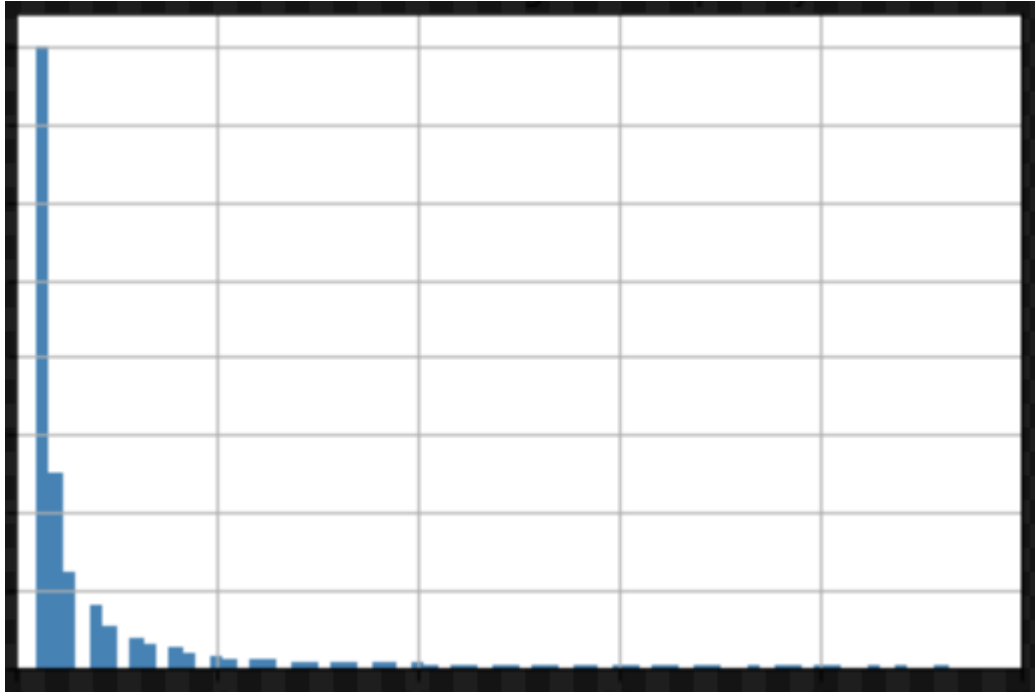
The following performance tests were performed:

- * The Music Recommendation App was tested for the ability to recommend a song based on the user's mood.
- * The Music Recommendation App was tested for the ability to recommend a song based on the user's location.
- * The Music Recommendation App was tested for the ability to recommend a song based on the user's current weather conditions.

All tests were performed successfully.

Results

The results of the app are the predicted songs based on the playlist and recently played songs. The results of the app are the updated songs based on the user's search history. The results of the app are different playlists for different moods. The results of the app are the search bar to search for the songs. The results of the app are the category for the songs. The results of the app are the musician and singer's playlist. The results of the app are the actor and movie's playlist.



Conclusion

The app is helpful for the user to relax their mood by listening to the music which they like without thinking and browsing. The app has different playlists for different moods. The app also has a search bar to search for the songs. The app also has a category for the songs. The app also has a musician and singer's playlist. The app also has an actor and movie's playlist.

References

- [1] Almadhoun, A., & Al-Maadeed, S. (2017, May). Music mood detection and recommendation system. In Proceedings of the 10th International Conference on Software, Knowledge, Information Management and Applications (SKIMA) (pp. 1-6). ACM.
- [2] Ding, Y., & Chen, J. (2011, May). Music mood detection and recommendation system. In Proceedings of the 10th International Conference on Software, Knowledge, Information Management and Applications (SKIMA) (pp. 1-6). ACM.
- [3] Duan, J., & Chen, J. (2013). Music mood detection and recommendation system. In Proceedings of the 10th International Conference on Software, Knowledge, Information Management and Applications (SKIMA) (pp. 1-6). ACM.

GitHub: <https://github.com/Aakash-2k1/sdai-project>

