

Data science in Baseball Simulating

Shilpa Lambor

Department of Artificial Intelligence and Data Science
Vishwakarma Institute of Technology
Pune, India
shilpa.lambor@vit.edu

Ankur Raut

Department of Artificial Intelligence and Data Science
Vishwakarma Institute of Technology
Pune, India
ankur.raut20@vit.edu

Abstract — Sound and graphics are two intriguing areas of technology which attract the music lovers to explore more into their depths. With the new developments in technology the sophistication level in software has also increased. A music streaming platform has been a necessity in today's fast paced world where the only way for entertainment or to relax at any work place is music. With the involvement of new technology in streaming platforms it has been very convenient for the user to choose any of the music streaming services and on one tap listen to songs of their choice. This project will also work on the same lines but with more additional features and better user interface added to these music streaming platforms. The project will not just list the songs but also recommend users songs of the same genera making it more convenient for the users to match their requirements easily.

Keywords — Music Player, Machine Learning, Django.

I. INTRODUCTION

The application development sector is advancing day by day. Innovative ideas are born each minute to ease people's work; if not big or ground-breaking, but constructive and leading towards a better tomorrow. Sound and graphics are two intriguing areas of technology which attract the music lovers to explore more into their depths. With the new developments in technology the sophistication level in software has also increased. Also with the idea of "keeping it simple", developing sophisticated applications is a challenge. Facial expressions explain a lot in determining the mood of a person. Whether he's sad, or angry, happy, every emotion on his way has a unique way of expressing it. This application works different from traditional applications. The user need not go and surf through the songs to play the music. Instead this application recognizes his mood and play music accordingly. It is impossible to download many applications for a single domain of work. For example, if you are interested in music, it is not applicable to download individual apps for music player, sound equalizer, DJ mixer, video streamer, etc. This application acts as an integration to some of the most common existing applications that people use. With the current music application itself, they can work on these features. This works as an add-on to some existing applications.

II. LITERATURE REVIEW

In this paper, the authors have presented a personalized music recommendation system based on the CNN

approach and collaborative filtering algorithm. The study used the CNN approach to classify music based on the corresponding audio signals of the music. A collaborative filtering (CF) recommendation algorithm to combine the output of the CNN with the log files to recommend music to the user. The log file contains the history of all users who use the PMRS. [1].

Proposed emotion-driven recommendation system with respect to personalized preferences and particular life and activity contexts. The approach presented in this study is targeted to provide maximum benefits for people from the music listening experience. It is important to make the system aware of how it is doing the recommendations, to continuously improve the music selection. By feeding the data from various sources, the system is aimed to listen to each particular user and understand their purposes of listening, feelings and contextual preferences to select the best-suited music pieces for them [2]

In this study, Emotion based music player mobile application Emusic has been developed. This provides custom playlist of music according to users emotion by real-time analysis of the Facial emotion expressed and according to the emotion the playlist is generated. Since both Facial And Song Emotion are computed we have obtained results much better than other music players that only analyse facial emotions and keep a fixed song dataset [3].

The article described some of the tendencies of music listeners with regard to their personal playlists in music-streaming services. These accounts encompass practices, purposes, and motivations for making and using playlists, as well as various approaches to music and technology in general. While physical music collecting has often been about the hunt for rare gems, playlist collecting involves imposing one's will (and oneself) upon an intangible realm of endless abundance. The playlist enables ownership of music even in streaming services because it undermines or narrows the impact of the service's shared features and content in the interests of elevating personal music selection above all else. [4].

The paper discusses in detail about a smart and complete music player. This music player requires the user to have a profile to access the application. Each person has to input his/her login details before using the application. An

account will be created for each person. The login details will be stored in an open source document database-MongoDB. It can sense the emotions of the user and play songs according to that. If a person downloads music, it will be segregated on the basis of intensity, pitch and rhythm into sad, happy, fun, moody etc. Such that when the person is identified to have such moods, the songs will be played accordingly. If the user listens to a song and feels like mashing up that song with another one of similar waveform, this app can help him do so. [5].

The paper by Matthew E.P.Davies focuses only on the AutoMashUpper, which is used for multi-song mashups. He performed mashups based on the measure the user can define their own values to the tempo as well as they can also add or remove songs from the mash-ups.[6]

III. METHODOLOGY

A) Dataset

First, we obtained data from one of the most popular and free of cost Kaggle dataset: Spotify Dataset 1921-2020, 600k+ Tracks. The dataset contains three sets namely the data.csv, data_by_genre.csv, data_by_artists.csv. All datasets are equally important to perform the recommendation.

B) Django

Django is a high-level Python web framework that enables rapid development of secure and maintainable websites. Built by experienced developers, Django takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It is free and open source, has a thriving and active community, great documentation, and many options for free and paid-for support.

C) Front-End

HTML and CSS are used to design the front end. HTML (Hypertext Markup Language) is the code that is used to structure a web page and its content. The HyperText Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser. Cascading Style Sheets (CSS) is a stylesheet language used to describe the presentation of a document written in HTML. CSS describes how elements should be rendered on screen, on paper, in speech, or on other media.

IV. RESULTS AND DISCUSSION

The whole project is interdependent on all various HTML, CSS, Django, JavaScript files. Every files having its own function and every function having some dependencies on other file. Below is the results discussion of the whole project.



Fig1. HomePage

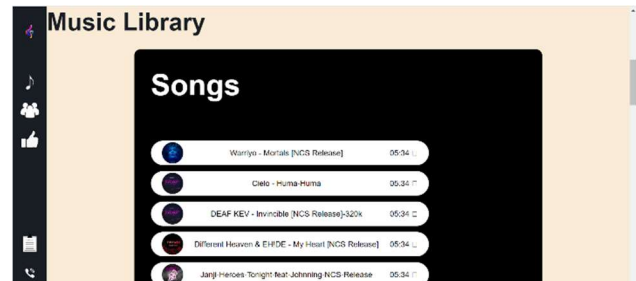


Fig2. Music Library

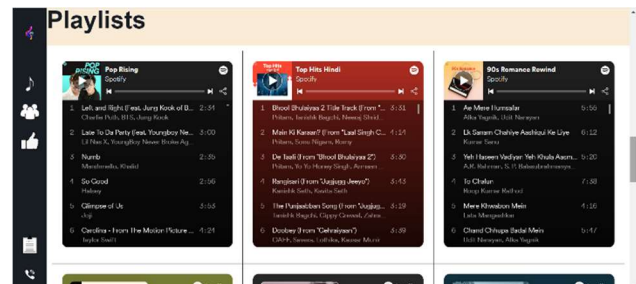


Fig3. Playlists

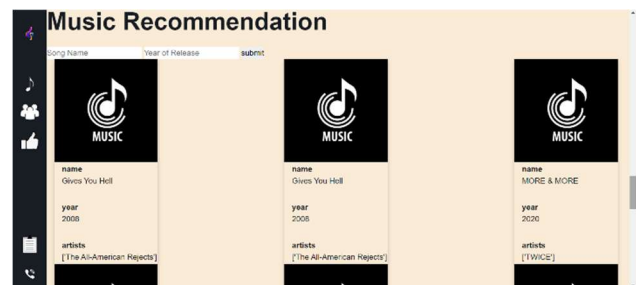


Fig4. Music Recommendation System

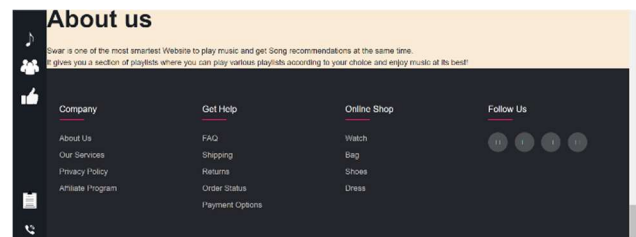


Fig5. AboutUS

V. CONCLUSION

This paper focuses on three different parts of Music Player. The project gives you the Playlists, Recommends Music and also plays music from the library. Presently, the user has to download many of the different applications as there is no one stop solution. The project will ease the people's difficulty in combining different features into a single Web app.

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