

EMOTION BASED MUSIC PLAYER

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ABSTRACT

Recent Studies show that people respond to music, and this music and this music has a strong effect on human brain activity. The average urban human listens up to four hours of music every day. People listen to music based upon there mood and interests. This project focuses on creating an app to play users' songs based on their mood by capturing a facial expression. Computer visualization is an interdisciplinary field that helps to convey a high-level understanding of digital images or video to computers.. In this system, computer vision components are used to determine the user's emotion by facial expression. When emotions are detected, the system plays a song of that emotion, saving a lot of user time by selecting and playing the songs themselves. Sentiment based music players also follow the details of the song and have genres like linear mode and random mode.

Keywords - OpenCV-Python, Emotional Recognition, Web Camera, Web Application.

INTRODUCTION

Music is an important form of entertainment these days. With the advancement of technology, the improvement of human activity has received much attention. There are many music players these days that require you to manually select songs and order songs.

Users, have to create and update play-list for each mood, which is time consuming. Some music players have advanced features such as providing lyrics by artist or genre and suggesting similar songs based on artist or genre. While these features are useful for users, there is room for improved in the field of automation when it comes to music player apps. It automatically plays songs and compositions based on the users mood to provide a better experience for the user. This can be gained through the system reacting to the user's emotion, saving time that would have been spent entering information manually. In order for the system to understand user status, we use facial expressions Using the web camera, we can capture the user's facial expression. There are many sensory systems that take an image as input and determine the emotion. For this application, we are using Fisherface classifier class for recognition of emotion.

With the development of multimedia and technology, in modern society various music players are being developed with features like fast forward, reverse, variable playback speed (search & time compression), local playback, streaming playback using multicast streams. These features meet the basic needs of users, but users still have challenges of manually searching through the playlist of songs and select songs based on user's current mood.

Audio sentiment recognition (AER) and Music Recovery (MIR) presentations in traditional music players automatically classify playlists based on different sentiment categories.

OBJECTIVE

The project Emotion based music player is a good approach that helps the user to automatically play songs based on the emotions of the user. Identifies the user's facial expressions and plays songs based on their emotions. The emotions are recognized using a machine learning method Linear discriminant analysis (LDA). The human face is an important part of individual's body and it plays an important role in extraction of an individual's behavior's and emotional state. Your Webcam captures facial features. It then determines the person's facial features from the captured image. Emotionally, song will be played from a predefined path.

LITERATURE SURVEY

Open-CV is a large open source of computer vision, machine learning, and image processing. Open-CV supports various editing languages such as Python, C++, Java, etc. It can process photos and videos to see objects, faces, or even handwriting. When combined with a variety of libraries, such as Numpy which is a well-designed library of numerical uses, the number of weapons grows in your Arsenal that is, any work one can do at Numpy can be integrated with Open-CV.

EXISTING SYSTEM

Here the existing system is nothing but Current music players have features play, pause, shuffle, play next, play previous.

APPLE MUSIC: the well-known world-wide music streaming application. The advantage of this app is the popular music suggestion for users; However, registration costs are very high.

SPOTIFY: It is a worldwide music streaming application. It also suggests songs based on user data collection. In addition, the cost of registering is much cheaper than apple music.

WYNK MUSIC: An app to stream and download music for all moods. It has over 108 million songs in Indian and international music. Listen and download songs by genre, mood, artist or simply think of tune in to one of the many radio stations.

Disadvantages:

- Personal choice of songs.
- Party push
- Playlist
- Randomly playing songs may not match your mood .
- User has to classify the songs based on the emotion and then for playing the songs ath user has to opt the song.

PROPOSED SYSTEM

The foremost concept of this project is to automatically play songs based on the emotions of the user.

It aims to provide user-friendly music about the emotions experienced. In existing system user has to manually select the songs ,randomly played may not match to the mood of the user, the user has to split the songs into many emotions and then by playing the songs the user chooses himself

Advantages:

- Efficient feature selection
- Fast feature computation
- Ease of use
- Mixed mood detection
- Improved accuracy
- Reduced computational time

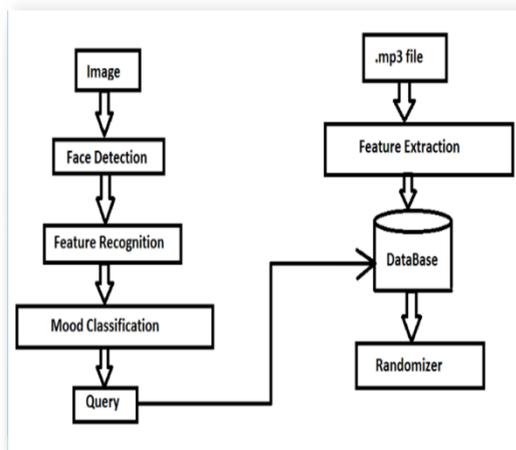
IMPLEMENTATION

Facial expression detection in Fisherface works with the help of trained models. The reason for this is to allow the user to retrieve the database depending on its usage. Suppose we take a large amount of data about 25-30k it will provide good accuracy no doubt but if the situation is similar that the user of the devices are a few people. Now in that case if we take an accurate database with about 400-450 images as user-related and will provide better accuracy with the benefit of a smaller amount of data and less memory on it . As well as a small amount of data memory provides a faster output that results in faster response time. Here we first experimented with the Cohn-Canada database and then did some sorting as our need was to train our model.

In this module, the first system will take a photo of the web camera or other compatible device. Then the input image is previewed for facial features If the image does not have human features, then we do not see it. If the inserted image contains a property of the person, get the property.

ARCHITECTURE

A diagram of a system structure will be used to show the relationships between the various components. They are typically created for systems that contain hardware and software and are diagrammed to show the interaction between them. However, it can also be created for web applications.



CONCLUSION

Emotional Music Player is used to automate and give a better music player experience to the end user. The app solves the basic needs of music listeners without bothering them like existing apps create: uses technology to increase system-user interaction for many ways. It simplifies the end user's work by taking a photo using the camera, to articulate their feelings, and to promote customized playlists through the most

advanced and collaborative play.

This project is developed to give us great advancement in the field of machine learning technology. Emotion based music player fulfils to sort out the music based on the emotions of the user such as whether it is happy or sad or angry. Therefore, our mission is entirely aimed at developing a user-based and assisted player revive in case of free time.

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