

EMO PLAYER: Emotion Based Music Player

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Abstract: This venture Emo player (a feeling based music player) is a novel methodology that causes the client to consequently play tunes dependent on the feelings of the client. It perceives the facial feelings of the client and plays the melodies as per their feeling. The feelings are perceived utilizing an AI technique Support Vector Machine (SVM) calculation. SVM can be utilized for grouping or relapse issues. It finds an ideal limit between the conceivable yields. The preparation dataset which we utilized is Olivetti faces which contain 400 countenances and its ideal qualities or parameters. The webcam catches the picture of the user. It at that point separate the facial highlights of the client from the caught picture. The preparation procedure includes instating some irregular qualities for state grinning and not grinning of our model, foresee the yield with those qualities, at that point contrast it and the model's forecast and after that alter the qualities so they coordinate the expectations that were made already. Assessment permits the testing of the model against information that has never been seen and utilized for preparing and is intended to be illustrative of how the model may perform when in reality. As indicated by the feeling, the music will be played from the predefined registries.

Keywords: Emotions, Machine learning, Olivetti faces, SVM, Songs, Training, Testing.

1. INTRODUCTION

Acknowledgment of outward appearances is utilized to recognize the essential human feelings. Outward appearances give essential standards about feelings. PC frameworks dependent on full of feeling collaboration could assume an imperative job in the up and coming age of PC vision frameworks. Face feeling can be utilized in territories of security, excitement and human machine interface (HMI). A human can express his/her feeling through lip and eye. By and large individuals have a vast number of tunes in their database or playlists. Along these lines to stay away from inconvenience of choosing a melody, a great many people will just arbitrarily select a tune from their playlist and a portion of the tunes may not be suitable for the present state of mind of the client and it may disillusion the client. Thus, a portion of the tunes are not coordinating to the users current feeling. In addition, there is no normally utilized application which can play melodies dependent on the present feelings of the client. Music plays a important job in upgrading an individuals, life as it is a critical mode of excitement for music sweethearts and audience members and now and then even gives a restorative methodology. In today's world, with regularly expanding progressions in the field of media and innovation, different music players have been created with highlights like quick forward, turn around, factor playback Although these highlights fulfill the user's essential necessities, yet the client needs to confront the errand of physically perusing

through the playlist of tunes and select tunes dependent on his present disposition and conduct.



Figure1. Different articulations of human

The primary target of this paper is to plan a productive and exact calculation that would create a playlist in light of current conduct of the client. Face identification and facial component extraction from picture is the initial phase in feeling based music player. For the face identification to work viably, we have to give an information picture which ought not be obscure and tilted. We have utilized calculation that is utilized for face identification and facial element extraction. We have produced tourist spots focuses for facial highlights. The following stage is the order of feeling for which we have utilized multiclass SVM grouping. The created milestones indicates are given the SVM to preparing reason. The feeling characterized by SVM is then passed to music player and appropriately music will be played.

2. LITERATURE SURVEY

Different systems and methodologies has been proposed and created to arrange human enthusiastic condition of conduct. The proposed methodologies have concentrated just on the a portion of the essential feelings. With the end goal of highlight acknowledgment, facial highlights have been arranged into two noteworthy classes, for example, Appearance- based element extraction and geometric based component extraction by zheng.

Geometric based component extraction method considered just the shape or major conspicuous purposes of some imperative facial highlights, for example, mouth and eyes. There is another conspire that is naturally portion an information picture, and to perceive facial feeling utilizing identification of shading based facial element guide and order of feeling with straightforward bend and separation measure is proposed and actualized. In other plan there is programmed strategy for constant feeling acknowledgment utilizing outward appearance utilizing another anthropometric model for facial element extraction.

[1]. Anagha S. Dhavalikar and Dr. R. K. Kulkarni Proposed Automatic Facial Expression acknowledgment framework. In This framework there are three stage 1.Face location 2. Highlight Extraction and 3.Expression acknowledgment. The First Phase Face Location are finished by YCbCr Color demonstrate, lighting pay for getting face and morphological tasks for holding required face i.e eyes and mouth of the face. This System is additionally utilized AAM i.e Active Appearance Model Strategy for facial element extraction In this technique the point on the face like eye, eyebrows and mouth

are found and it make an information record which gives data about model focuses distinguished and identify the face the a demeanor are given as information AAM Model changes as indicated by articulation.

[2]. Yong-Hwan Lee ,Woori Han and Youngseop Kim pro- posed framework dependent on Bezier bend fitting. This framework utilized two stage for outward appearance and feeling initial one is location and examination of facial zone from information unique picture furthermore, next stage is confirmation of facial feeling of qualities highlight in the area of intrigue. The main stage for face discovery it utilizes shading still picture dependent on skin shading pixel by introduced spatial sifting ,based on consequence of lighting empathy at that point to gauge face position and facial area of eye and mouth it utilized element map In the wake of extricating area of intrigue this framework remove purposes of the component guide to apply Bezier bend on eye and mouth The for comprehension of feeling this framework utilizes preparing and estimating the distinction of Hausdorff separate With Bezier bend between entered face picture and picture from database.

[3]. Arto Lehtiniemi and Jukka Holm proposed framework dependent on enlivened state of mind picture in music sug- gestion. on this framework the client connect with a gathering of pictures to get music suggestion regarding classification of picture.this music suggestion framework is created by Nokia explored center.this framework utilizes printed meta labels for depicting the class and sound flag handling .

[4]. F. Abdat, C. Maaoui and A. Pruski proposed framework completely programmed outward appearance and acknowledgment framework based on three stage face recognition, facial attributes extraction and outward appearance arrangement. This framework proposed anthropometric model to distinguish the face highlight direct consolidated toward shi and Thomasi technique. In this metod the variety of 21 separations which portray the facial element from nonpartisan face and the characterization base on SVM (Support Vector Machine).

3. PROPOSED WORK

The proposed framework endeavors to give an intelligent path to the client to complete the undertaking of making a playlist. The working depends on various components completing their capacity in a precharacterized request to get the ideal yield. The working can be expressed as pursues:

- 1) The proposed System works by first giving a basic enough interface which prompts the client to check the memory for sound documents when the application is opened.
- 2) At that point after the documents are identified, they are checked for sound highlights and these highlights are separated.
- 3) At that point the removed component esteems are ex- posed to order as per the parameters gave.
- 4) These parameters incorporate a constrained arrangement of class types dependent on which the sound element esteems will be handled.
- 5) After this, the tunes are isolated into various playlists dependent on the element extraction process. Subse- quently arrangements of comparable sounding tunes or melodies having a place with comparative kinds are created.
- 6) In the following stage, the client camera is summoned with appropriate authorizations and a continuous graph- ical information (picture) is given to the framework.
- 7) The framework first checks for the nearness of a face in the information utilizing the face location process, at that point characterizes the information and creates a yield which is an Emotion (temperament) in light of the articulation extricated from the genuine time graphical info.

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- 10) After this the ordered articulation goes about as an information and is utilized to choose a proper playlist from the at first created playlists and the melodies from the playlists are played.

3.1 Modules:

A. Facial Expression Recognition:

The info picture to the framework can be caught utilizing a web cam or can be procured from the hard circle. This picture experiences picture upgrade, where tone mapping is connected to pictures with low difference to reestablish the first differentiation of the picture. Subsequently, preparing and characterization is performed utilizing one-versus all approach of SVM which effectively encourages multi-class order.

B. Facial Emotion Recognition:

Different kinds of examinations were done to assess the execution of the facial feeling acknowledgment module. These trials were extensively ordered under two sorts: client free and client subordinate feeling grouping. Client autonomous trials were completed for 30 people.

C. Sound Feature Recognition:

In Music Emotion acknowledgment hinder, the playlist of a client frames the information. Utilizing the feeling we create the playlist and play the tunes.

D. Feeling Based Music Player:

The Proposed framework is tried and tested against an in-constructed camera, in this way the complete cost associated with usage is practically irrelevant. Normal evaluated time for different modules of proposed framework.

4. ARCHITECTURE DESIGN

Various methodologies have been intended to remove facial highlights and sound highlights from a sound flag and very maybe a couple of the frameworks planned have the ability to create a feeling based music playlist utilizing human feelings and the current plans of the frameworks are proficient to create a mechanized playlist utilizing an extra equipment like Sensors or EEG frameworks in this way expanding the expense of the plan proposed. A portion of the downsides of the current framework are as per the following.

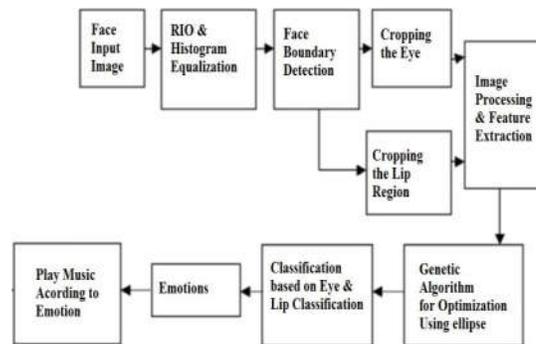


Figure 2: Architecture

I. Existing frameworks are exceptionally perplexing as far as time and memory prerequisites for removing facial highlights in genuine time.

II. In view of the current passionate state and conduct of a client, existing frameworks have a lesser exactness in age of a playlist. Some current frameworks will in general utilize the utilization of human discourse or in some cases even the utilization of extra equipment for age of a mechanized playlist, along these lines expanding the all out expense brought about.

5. HARDWARE AND SOFTWARE REQUIREMENTS

- Processor - Pentium –III Speed - 1.1 Ghz
- RAM - 256 MB(min)
- Hard Disk - 20 GB Floppy Drive - 1.44 MB
- Mouse - Two or Three Button Mouse Monitor - SVGA Webcam

6. ALGORITHM

- 1) Catch picture utilizing webcam and spare.
- 2) Information picture to the application.
- 3) Face identification.
- 4) Concentrate intrigue focuses on mouth and eye .
- 5) Apply bezier bend on the mouth and eye.
- 6) Apply edge .
- 7) Gadget will perceive the feelings and will play music.
- 8) As indicated by feelings tunes rundown will be open.

7. RESULT AND ANALYSIS

The project is developed by using the Python and Pandas. Project Emo player (an emotion based music player) is a novel approach that helps the user to automatically play songs based on the emotions of the user. It recognizes the facial emotions of the user and plays the songs according to their emotion. There are some snapshots related to implementation

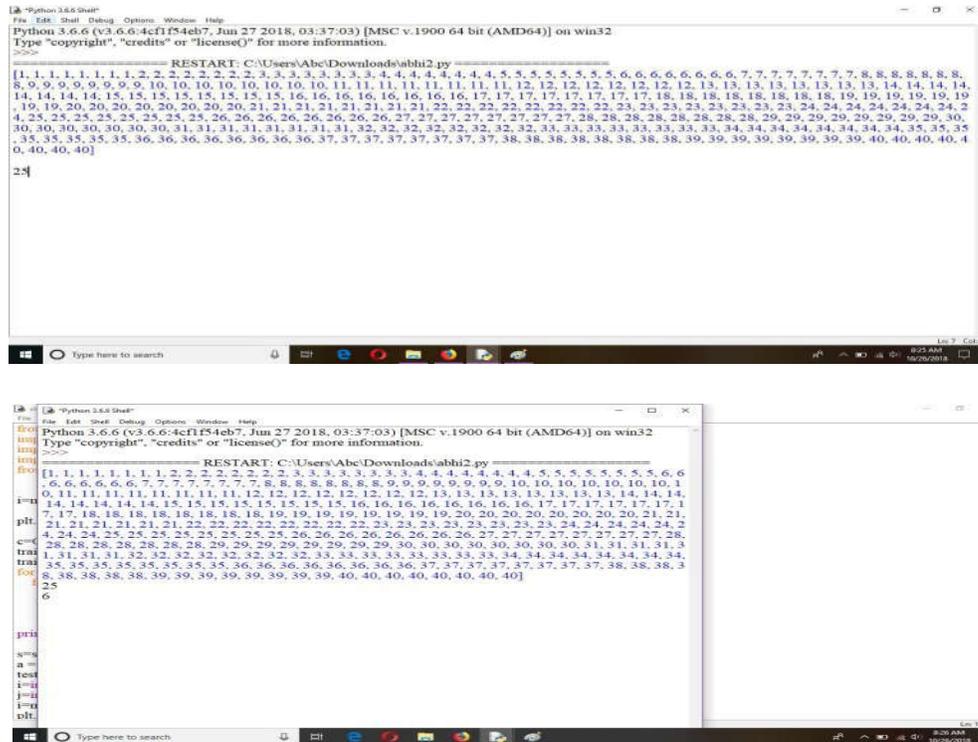
A. Select the Folder Number:

For the implementation purpose we are using dataset of 40 folders. Each folder contains 10 images of one person. Out of 10 images ,8 images are trained images and

two are test images. The details of images is shown in following fig. From the available images ,user can select one folder number for taking image details.

B. Select the Image Number:

After selecting the folder number, user has to give image number out of 10 image numbers as shown in following figure.



- Can detect sleepy mood while driving.
- Can be used to determine the mood of people who are physically and mentally handicapped.

Genetic algorithms provide optimal values of eye, eyebrow and lip features. So this gives input to the neural network and we get emotions. Thus the application developed will reduce user efforts in creating and managing playlists. This will provide better enjoyment to listeners of music by giving songs that are most suitable or suitable for users according to his current emotions. This will not only help users but also the songs are sorted systematically.

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9.REFERENCES

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