Emotion Based Music Player Using Android

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ABSTRACT

Facial expression is a form of nonverbal communication. This system based on face expression extracted will generate a playlist automatically thereby reducing the effort and time involved in show the process manually. Facial expressions are given using inbuilt camera. Music plays a very important role in human′s daily life. The music player itself selects the songs according to the current mood of the user. The emotions are identify using a machine learning method Support Vector Machine (SVM)algorithm.

The project is to develop an Emotion based music player, which is an android application meant for users to minimize their efforts in managing large playlists. Once the emotion is detected, playlist of songs suitable to the mood of the user will be presented to him

Emotions can be expressed through gestures, speech, facial expressions, etc. For the system to understand a user's mood, we use facial expression [1]. There are many emotion recognition systems which take captured image as input and determine the emotion. For this application, we are using Affective SDK for recognition of emotion.

Keywords: Emotion, Facial Expression, Face Detection, Camera, Music, Support Vector Machine.

1. INTRODUCTION

Using traditional music system, a user had to manually browse via his playlist and select songs that would soothe individual mood and emotional experience. People have big number of songs in their playlists or file manager. Moreover, there is no commonly used application which is been able to play songs based on the current mood or its emotion of the user. Music plays a very vital role to amplify an individual's life as it is an major medium of entertainment for melody lovers and listeners and sometimes even imparts a therapeutic approach or counsellor .It recognizes the

expressions of the users and presents a suitable list according to the users mood and act as an mood analyser , it reacts to our situation very easily and helps us to overcome.

Compare to others this plays a novel approach that removes the risk that the user has to face the task of manually browsing through the playlist of songs to select. Here we had generate a playlist based on current emotional state and behaviour of the user. We haveorignated landmarks points for facial theme . The next step is the grouping of emotion

2.   LITERATURE SURVEY

  Literature reviews use secondary sources, and do not report new or original experimental work. Various techniques and approaches have been   proposed   and   developed   to   classify human   emotional   state   of   behaviour.   The proposed approaches have focused only on the some of the basic   emotions. Geometric   based feature   extraction technique considered only the shape   or   major   prominent   points   of   some important facial features such as mouth and eyes. An accurate and efficient statistical based approach for analysing extracted facial expression features was proposed by Renuka R. Londhe. The paper was majorly focused on the study of the changes in   curvatures   on   the   face   and   intensities   of corresponding pixels of images. Support Vector

3.   METHODOLOGY

In existing system user want to manually select the songs, randomly played songs may not match to the mood of the user, user has to classify the songs into various emotions   like anger,happy,sad,normal,funny. These difficulties can be avoided by using Emo Player (Emotion based music player). The emotions are recognized using a machine learning method Support Vector Machine (SVM)algorithm.SVM can be used   for   classification   or   regression   problems.

for which we have used SVM classification. The created landmarks points are on the condition to the SVM for training purpose. The emotion classified by SVM is then processed to music system and accordingly to the emotion music will be played.

The facial expressions categorize 5 different facial expressions like anger,joy,surprise,sad and excitement. The user dependent and user independent data sets can done here and facial expression captured using inbuilt camera.

Machine (SVM) was used in the classification extracted features into 6 major universal emotions like anger, disgust, fear, happy, sad, and surprise.

According to the emotion, the music will be played from the predefined directories.

   Three major modules:

- Emotion extraction module(EEM)
- Audio feature extraction module(AEM)
- Emotion-audio recognition module

EEM and AEM are two separate modules and emotion audio recognition module performs the

mapping of modules by querying the audio Meta data file.

4. PROBLEM STATEMENT

Music plays an important role in an individual's life. It is an important source of entertainment and is often associated with a therapeutic role. With the advent of technology and contiguous advancements in multimedia, sophisticated music players have been designed and have been enriched with numerous features, including volume modulation, genre classification etc. Although, these features successfully addressed the requirements of an individual, a user sporadically suffered through the need and desire of browsing through his playlist, according to his mood and emotions. 'This task was labour intensive and an individual often faced the dilemma of landing at appropriate list of songs. Hence, this application can be used which dynamically suggest songs from your playlist according to the mood the user is feeling for his/her satisfaction.

5. WORKING

As we know about the project we can play music according to the user's mood as described down. Here's the application working.

First the users mood is been detected. Then the user's mood according the playlist will be appeared for playing the songs
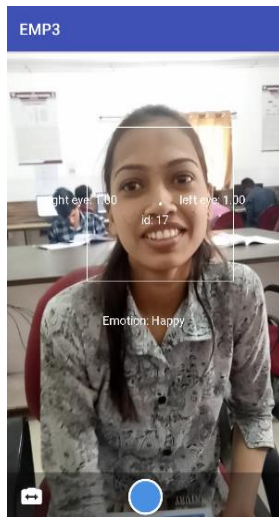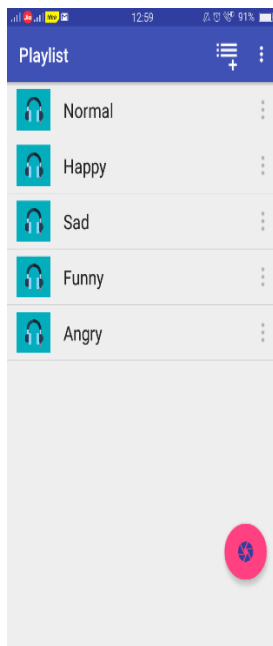

First of all the user's mood is been detected in android camera to play the songs. As we can see the image describes the landmark points which are visible to the visions its eye's and lips indicates the user emotion is happy.
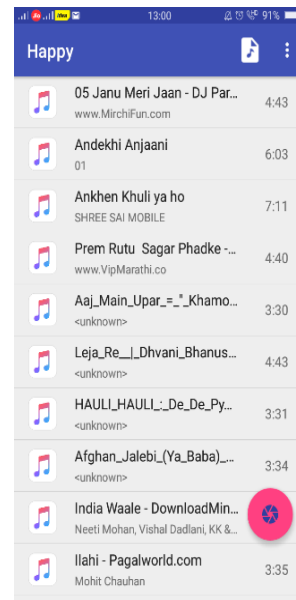
User is happy and mood is detected so from the playlist songs are appeared.

Songs are played by the user' detected mood
There are playlist present which has the following
moods. As described by the given image.

Fig: - Working of Emotion Based Music Player for Emotion Detection

6. RESULTS

Results have been collected has been face detected
by the user's mood and his emotional behavioral
frame of mind. We had happy, sad, angry, normal
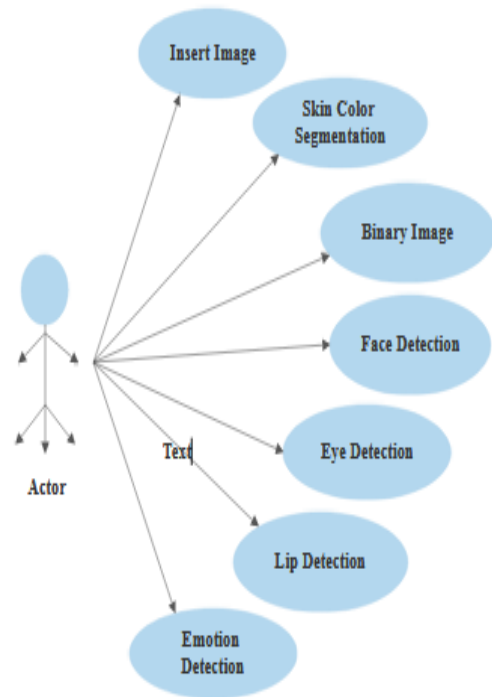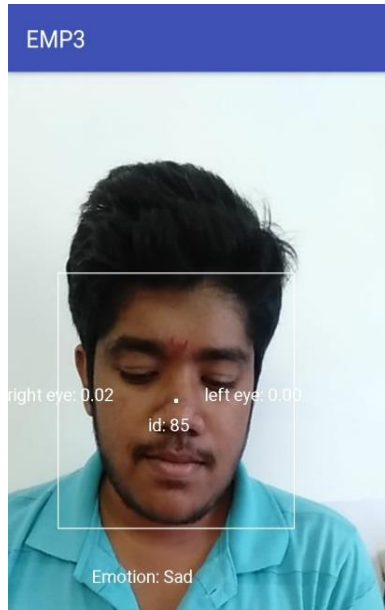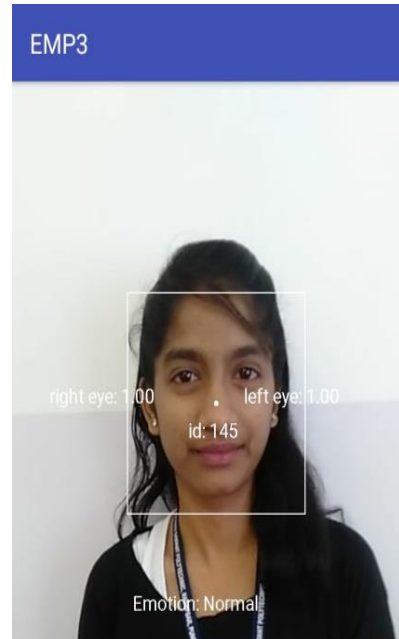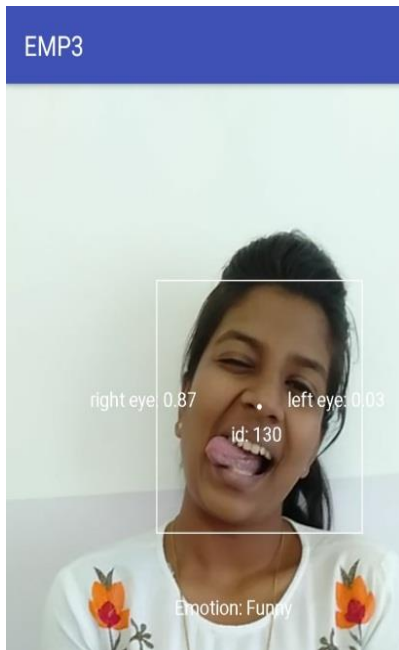and funny.

Sad: In this the user's mood is sad as in the present emotion right eye: 0.02, left eye: 0.00 and emotion is sad so the given expressions express the sad emotion detector.
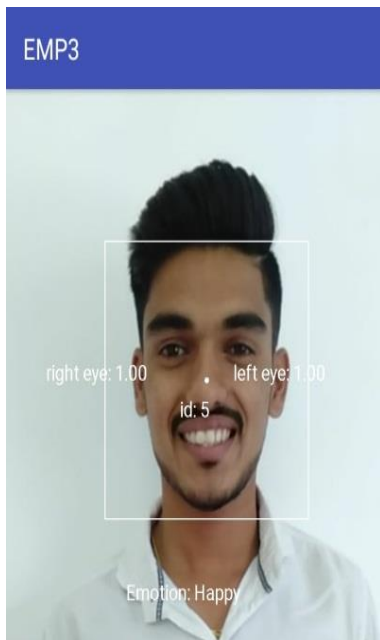

Normal: In this the user's mood is normal as in the present emotion right eye: 1.00, left eye: 1.00 and emotion is funny so the given expressions express the normal emotion detector.

Funny: In this the user's mood is funny as in the present emotion right eye: o.87, left

Eye: 0.03 and emotion is funny so the given expressions express the funny emotion detector.

Angry: In this the user's mood is angry as in the present emotion right eye: 1.00, left eye: 0.99 and emotion is angry so the given expressions express the normal emotion detector.

EMP3

right eye: 1.00 . left eye:1.00

id: 5

Emotion: Happy

Happy: In this the user's mood is happy as in the present emotion right eye: 1.00, left eye: 1.00 and emotion is happy so the given expressions express the happy emotion detector.

7. CONCLUSION AND FUTURE SCOPE

The Emotion Based Music System will be of great advantage to users looking for music based on their mood and emotional behaviour. It will help reduce the searching time for music thereby reducing the unnecessary computational time and thereby increasing the overall accuracy and efficiency of the system. Also with its additional features The future scope in the system would to design a mechanism that would be helpful in music therapy treatment and provide the music therapist the help needed to treat the patients suffering from disorders like mental stress, anxiety, acute depression and trauma.

As memory space within mobile application is

limited. This also broadens the spectrum of songs we are working with and hence will improve the results. Identify Complex and Mixed Emotions: Currently only the 7 prominent emotions are being examined and there may be certain other emotions that a facial expression may convey. In order to improve efficiency such that an emotion is not classified wrongly we can increase the number of classes by including mixed emotions.Analyze the song′s lyrics and estimate the emotion of the song and combine the emotion with the emotion of the song.

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