

Emotion Based Music Player

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Abstract: *A novel approach that provides, the user with an automatically generated playlist of songs based on the mood of the user. Music plays a very important role in human's daily life and in the modern advanced technologies. The difficulties in the creation of large playlists can overcome here. The objective of this project is to detect emotion and select music to be played based on the detected emotion. Music or songs can be a powerful tool to describe human emotion here in this project is a trial to build a powerful tool that can help the user to play music based on stated emotion or detected one. Finally, results from testing the app using live captured images and to detect the emotion and select music accordingly are presented. The methodology of solving this problem is to build a fully functional app (Front End and Back End) that solves this problem, starting from the front end there an easy and understandable interface anyone can use, this interface is fully connected to the back end. A fully functional app that built to solve this problem (Desktop Only) which trained with different states of emotions (Happy, Sad, Angry, and Normal) with a very high accuracy rate which is "85%" for training and "83%" for testing rate, the application is successfully suggesting music by suggesting single songs that fits any user's emotion.*

Keywords: Music Player, Emotions, Happy, Sad, Automatically, Playlists

I. INTRODUCTION

A facial expression can be expressed through the motions or from one or more motions, movements or even positions of the muscles of the face. These movements transmit of the emotional status of an individual. Facial expression can be adopted as voluntary action as individual can control his facial expression and to show the facial expression according to his will. For an example, a person can make the eyebrow closer and frown to show through the facial expression that he is angry. On the other hand, an individual will try to relax the face's muscle to indicate that he is not influence by the current situation. However, since facial expression is closely associated with the emotion, thus it is mostly an involuntary action. It is nearly impossible for an individual to insulate himself from expressing the emotions. An individual may have a strong desire or will to not to express his current feelings through emotions but it is hard to do so. An individual may show his expression in first few micro-second before resume to a neutral expression. Nowadays, people tend to increasingly have more stress because of the bad economy, high living expense etc. listening to music is a key that reduce stress. Most of the people dose not select music as per our emotion that is why, this project is emotion based music player. Which is able to suggest songs based on users emotion; sad, happy, angry, surprise and neutral. The application captures facial image from the user and detect emotion based on that emotion the application will suggest the songs. This Music Player itself selects songs according to the current mood of the user. Music player very important role in human's daily life and in the modern advance technologies. The difficulties in the creation of large playlist can overcome here. The major challenge is arranging the different songs in playlist as per the human Emotions.

II. LITERATURE SURVEY

Ref No. Year @ Publisher	Authors	Method
[1], 2019 @IEEE	Chankuptarat , krittin , Supannada.	Extract Average Classifi Method
[2], 2018 @IEEE	Pranav sarda, Sushamita, Jagannath.	Randor Emousi Classifi Algorit
[3], 2017 @IEEE	Lukesh, Sneha, Upadhya.	Process Feature Extract

III. PROPOSED WORK

We propose an Emotion-based music player which will play songs according to the emotion of the user. It aims to provide user-preferred music with emotional awareness. The proposed system can detect the facial expressions of the user and based on his/her facial expressions extract the facial landmarks, which would then be classified to get a particular emotion of the user. Once the emotion has been classified the songs matching the user's emotions would be shown to the user. It is based on the idea of automating much of the interaction between the music player and its user. Emotion-Based Music Player is installed on a personal computer where the user can access their customized playlists and play songs based on their emotions. The proposed model is able to extract user's facial expression and thus detect user's emotion. The music player in the proposed model will then play the songs according to the category of emotion detected.

IV. UML DIAGRAMS

4.1 System Architecture

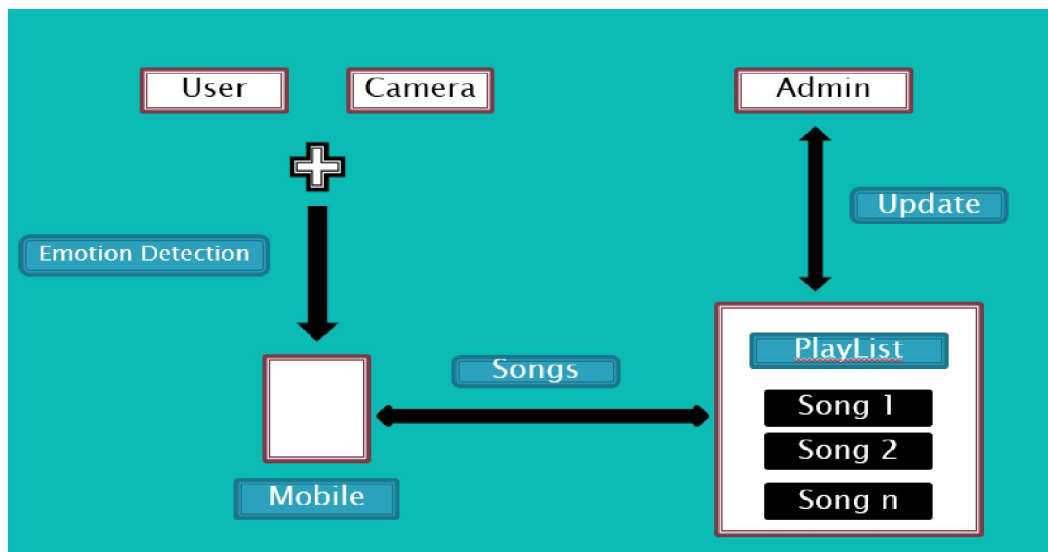


Figure 1: System Architecture for Emotion based music player

4.2 Activity Diagram

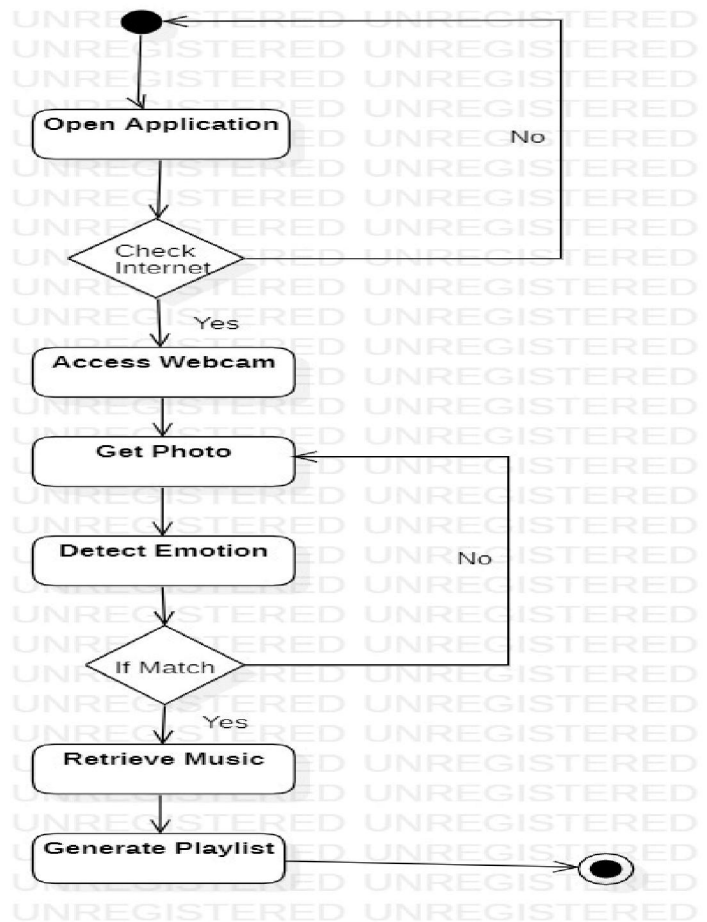


Figure 2. Activity Diagram for Emotion based Music System

V. HARDWARE AND SOFTWARE REQUIREMENTS

5.1 Hardware Requirements

- RAM: 4 GB or more
- Processor: Intel core i5 or i7
- Hard Disk: 100 GB or more
- Peripherals: Keyboard, mouse, monitor

5.2 Software Requirements

- Operating System: Windows XP, 7 or higher
- Browser: Google chrome
- Language: HTML, CSS, JavaScript and Python

5.3 Applications

- We can listen songs according to our emotions.
- It will helpful for reducing stress.
- Efficient feature selection.
- Easy to use for user.
- It makes music recommendation system faster.
- Music player can helps relieve feelings of anxiety and depression.

VI. FUTURE SCOPE

- Image capturing can be made more efficient in low light environment.
- More accurate playlist can be generated.
- Even more compact device can be designed.
- The system will not only reduce physical stress but will also act as a boon for the music therapy systems and may also assist the music therapist to therapize a patient.
- 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. The proposed system also tends to avoid in future the unpredictable results produced in extreme bad light conditions and very poor camera resolution.

VII. CONCLUSION

In this Emotion based music player is proposed which establishes a relationship between the playlist and the mood of the person listening to the music. The connection between music classification and users facial emotion expression then according to emotion expression music player display the N number of songs playlist from database so can user choose any songs for listing. The Emotion-Based Music Player is used to automate and give a better music player experience for the end-user. The application solves the basic needs of music listeners without troubling them as existing applications do: it uses increases the interaction of the system with the user in many ways. It eases the work of the end-user by capturing the image using a camera, determining their emotion, and suggesting a customized play-list through a more advanced and interactive system. Our main aim is to consume users' time and to satisfy them.

VIII. ACKNOWLEDGMENT

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