"A MEDIA PLAYER WHICH OPERATES DEPENDING UPON HUMAN EMOTIONS"

MR. MAYANK MANGAL[1],SWAPNIL PAWADE[2], AMIT PAWAR[3], SAMEER MEMON[4]

[1]Head of Department of Information Technology, ARMIET, Shahapur, Maharastra, India,

[2]UG Scholar, Department of Information Technology, ARMIET, Shahapur, Maharastra, India,

[3]UG Scholar, Department of Information Technology, ARMIET, Shahapur, Maharastra, India,

[4]UG Scholar, Department of Information Technology, ARMIET, Shahapur, Maharastra, India

A**bstract**: Facial expression provides current mind state of person. The most natural way to express emotions is using facial expressions. Human often use nonverbal cues such as hand gestures, facial expressions, and tone of the voice to express feelings in interpersonal communications. It is very time consuming and difficult to create and manage large playlists and to select songs from these playlists. Thus, it would be very helpful if the music player itself selects a song according to the current mood of the user. Thus, an application can be developed to minimize these efforts of managing playlists. In this project, we will built an application that will automatically detect the mood of the user and present him a playlist of songs, which is suitable for his current mood. The face is captured using webcam and that image is passed under different stages to detect the mood or emotion of the user. The application is thus developed in such a way that it can manage content accessed by user, analyze the image properties and determine the mood of the user.

INTRODUCTION

Music plays a very important role in enhancing an individual's life as it is an important medium of entertainment for music lovers and listeners and sometimes even imparts a therapeutic approach. In today's world, with ever increasing advancements in the field of multimedia and technology, various music players have been developed with features like fast forward, reverse, variable playback speed (seek & time compression),local playback, streaming playback with multicast streams and including volume modulation, genre classification etc. Although these features satisfy the users basic requirements, yet the user has to face the task of manually browsing through the playlist of songs and select songs based on his current mood and behavior. That is 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. Using traditional music players, a user had to manually browse through his playlist and select songs that would soothe his mood and emotional experience. This task was labor intensive and an individual often faced the dilemma of landing at an appropriate list of songs. The proposed model will extract user's facial expressions and features to determine the current mood of the user. Once the emotion is detected, playlist of songs suitable to the mood of the user will be presented to him. It aims to provide better enjoyment to the music lovers in music listening. In the model, following moods are included: Happy & Sad. The system involves the image processing and facial detection processes. The input to the model is still images of user, which are further processed to determine the mood of user.

EXISTING SYSTEM

The features available in the existing Music players present in computer systems are as follows:

1. Manual selection of songs
2. Party Shuffle
3. Playlists
4. Music squares where user has to classify the songs manually according to particular emotions for only four basic emotions .Those are Passionate, Calm, Joyful and Excitement.

PROPOSED SYSTEM ARCHITECTURE

The system involves the image processing and facial detection processes. The input to the model is still images of user which are further processed to determine the mood of user. The system will capture the image of the user at the start of the application. The images are captured using webcam. The image captured previously will be saved and passed to the rendering phase. The mood of the user may not be same after some time; it may or may not change then that image will be forwarded to the next phase. For the purpose of analyzing the image first of all, the images are converted from RGB format to binary format. For that the average value of RGB for each pixel is calculated and if the average value is greater than it is replaced by white pixel and otherwise it is replaced by black pixel.
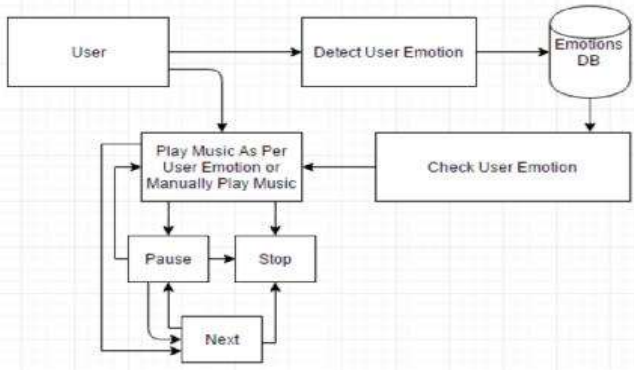
Fig. System Architecture

ACTIVITY DIAGRAM

Activity diagrams are not only used for visualizing dynamic nature of a system but they are also used to construct the executable system by using forward and reverse engineering techniques .The only missing thing in activity diagram is the message part.
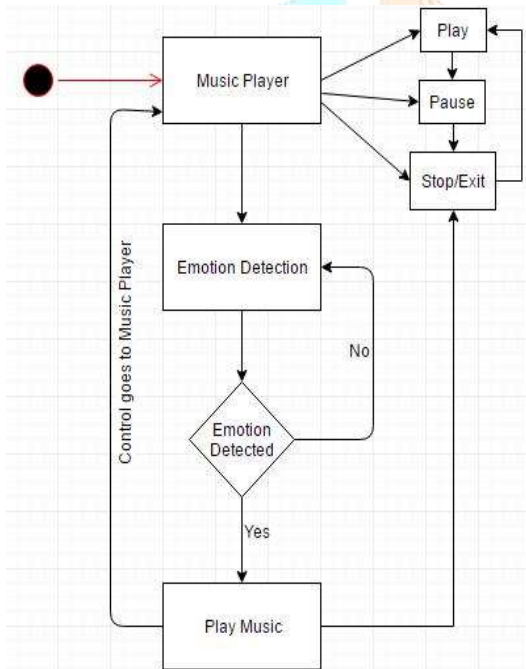

Fig. Activity Diagram

TECHNOLOGY USED

• **Python:-**

Python is a widely used high-level programming language for general-purpose programming language. An interpreted language, Python has a design philosophy which emphasizes code readability (notably using whitespace indentation to delimit code blocks rather than curly braces or keywords), and a syntax which allows programmers to express concepts in fewer lines of code than possible in languages such as C++ or Java. The language provides constructs intended to enable writing clear programs on both a small and large scale.

Python features a dynamic type system and automatic memory management and supports multiple programming paradigms, including object-oriented, imperative, functional programming, and procedural styles. It has a large and comprehensive standard library.

• **OpenCV:-**

OpenCV (Open Source Computer Vision) is a library of programming functions for real-time computer vision. It uses a BSD license and hence it is free for both academic and commercial use. It has C++, C, Python and Java (Android) interfaces and supports Windows, Linux, Android, iOS and Mac OS. It has more than 3000 optimized algorithms. Adopted all around the world, OpenCV has more than 15 million downloads growing by nearly 280K/month. Usage ranges from interactive art, to mines inspection, stitching maps on the web on through advanced robotics.

OpenCV, which is an image and video processing library with bindings in C++, C, Python, and Java. OpenCV is used for all sorts of image and video analysis, like facial recognition and detection, license plate reading, photo editing, advanced robotic vision, optical character recognition, and a whole lot more.

CONCLUSION AND FUTURE SCOPE

CONCLUSION:

Thus, the system designed will reduce the efforts of user in creating and managing playlist. It will provide better enjoyment to the music listeners by providing the most suitable or appropriate song to the user according to his/her current emotion. It will not only help user to create the playlist but also the songs will be categorized systematic

FUTURE SCOPE:

In future, we would like to develop a mood-enhancing music player in the future, which starts with the user's current emotion (which may be sad) and then plays music of positive emotions thereby eventually giving a joyful feeling to the user.

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Author's Profile:

Mr. Swapnil Pawade, Bachelor of Engineering in Information Technology from University of Mumbai

Mr. Amit Pawar, Bachelor of Engineering in Information Technology from University of Mumbai

Mr. Sameer Memon, Bachelor of Engineering in Information Technology from University of Mumbai