**Project Title:-** Emotion based music player using opencv and raspberry pi.

**Domain:-** Machine learning.

**Introduction :-**

In this project we are reading facial expression of human according to that we are selecting audio tracks and play it for this we are using Raspberry pi and opencv with python.

**Problem Definition:-**

Using traditional music players, a user had to manually browse through his playlist and select songs that would soothe his mood and emotional experience. 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 user‘s 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.

**Abstract:-**

This 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. The emotions are recognized using a machine learning method Support Vector Machine (SVM )algorithm. SVM can be used for classification or regression problems. It finds an optimal boundary between the possible outputs. The training dataset which we used is Olivetti faces which contain 400 faces and its desired values or parameters. The webcam captures the image of the user.It then extract the facial features of the user from the captured image. The training process involves initializing some random values for say smiling and not smiling of our model, predict the output with those values, then compare it with the model's prediction and then adjust the values so that they match the predictions that were made previously. Evaluation allows the testing of the model against data that has never been seen and used for training and is meant to be representative of how the model might perform when in the real world. According to the emotion ,the music will be played from the predefined directories

**Objective:-**

1. According to the emotion, the music will be played from the predefined directories.
2. The emotions are recognized using a machine learning method Support Vector Machine(SVM )algorithm.

**Scope:-**

By using Emo player we can easily play the songs according to the emotion of the user.

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