**Emotion-based music player by using Facial recognition**

ABSTRACT:

This project, Emotion-based music player, is an approach that helps the user to play songs supported the emotions of the user automatically. It recognizes the facial emotions of the user and plays the songs in keeping with their emotion. Well, there aren’t any real time application that can play songs based on facial emotion. This program will be able to detect facial emotion from the user face using camera and detect the emotion and play the songs randomly from the playlist with respect to emotion captured.

Participants:

Name: Bhargava Rathod ([bhargavarathod@my.unt.edu](mailto:bhargavarathod@my.unt.edu) )

Role: Python programming and test the data model in the real life scenario.

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Role: Python programming

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Role: Python programming

Meeting Times: Weekly meetings via Zoom.

Project Design and Milestones:

The project will be programmed in the Python language using Google collab or Jupyter notebook. Since it takes lot of time to train the model needed a high processing power. So, based on the performance we will use either Google collab or Jupyter notebook. We will be using VGG16 or any deep learning model to train dataset for facial recognition.

1. Data collection from Kaggle or GitHub repository.

2. Data preprocessing. (Labelling the images and arranging the images in folders based on the emotion).

3. Build and train model using VGG16 architecture.

4. Saving our trained model.

5. Develop a program for play audio by emotion.

- Loading the trained model

- Take camera access and capture the frame.

- Detect facial emotion by giving frame as a input to the trained model

- play songs with respect to emotion detected.

Resources and Related Projects:

* This source helps me understand the working of VGG16 architecture.

<https://towardsdatascience.com/step-by-step-vgg16-implementation-in-keras-for-beginners-a833c686ae6c>

* Trying out different datasets from Kaggle to find most precise and well sorted dataset.

<https://www.kaggle.com/jonathanoheix/face-expression-recognition-with-deep-learning>

* This related project acts as the process flow.

<https://www.geeksforgeeks.org/emotion-based-music-player-python-project/>

* This is helpful resource to understand more about how to train model.

<https://www.w3schools.com/python/python_ml_train_test.asp>