Take a Pic, Get a Playlist

AI Developed Mood–Based Playlists

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Description

This project is an artificial intelligence software application that determines a person's most prominent emotion. Then, it recommends a playlist of songs for them to listen to based on that emotion. Music often goes hand in hand with our mood. This application will ultimately connect people to personalized music. Anyone should be able to use the software and all facial features should be recognized accordingly. Music is a universal language that everyone resonates with and has such a major impact on our moods. Therefore, it is interesting to implement technology that recognizes something as precise as emotions to have certain music for certain moods.

Methods

1. Research existing emotion recognition technology
2. Implement emotion recognition technology
3. Extract data from emotion recognition technology
   a. Test emotion recognition technology
4. Find designated playlists through Spotify
   a. At least (3) – happy, sad, angry
5. Display a playlist depending on identified emotion
6. Test entire AI program

Required Resources

1. Hardware
   a. CPU – Apple MacBook
   b. External Hard Drive or Cloud Storage
2. Software
   a. Code Editor IDE – Visual Studio Code
   b. Coding Languages – Node, JavaScript
   c. UI Development Software
   d. Google Cloud Vision API
3. Server Hosting – Google App Engine
4. Music Streaming Service – Spotify
5. Control Group – test software

Results

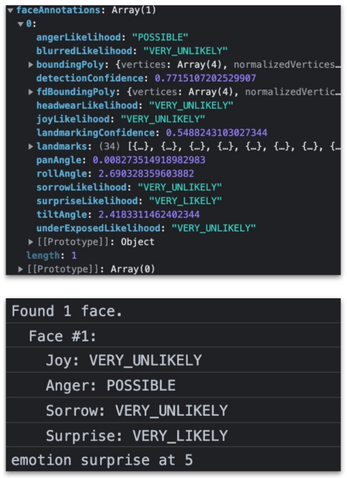
This project was successfully developed as a web application that had the power to identify the user's mood and recommend a playlist of songs for them to listen to based on the mood. It has been deployed online to a website powered by Google Cloud's App Engine.

Users can give the webpage camera access, allowing them to take a picture of themselves right from the site. Once they click the capture button, their image is automatically sent to the Google Vision API to determine their emotion. Users also have the option to upload a different image to a form, which is also sent to the Vision API with the click of a button. Based on the emotion detected, a designated playlist embedded from Spotify shows up next to the submitted image.

Development

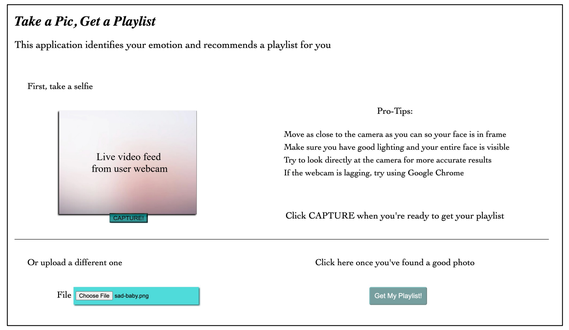
Client-Side Code
HTML, CSS, JavaScript

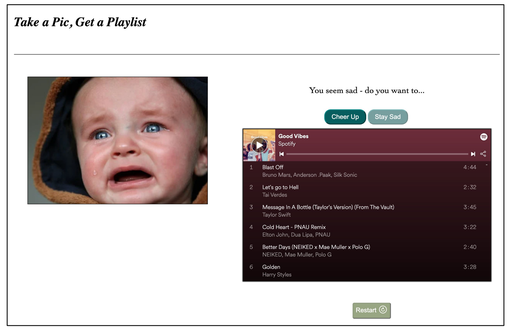
App Engine Server
Express



Google Vision API
Emotion Detection

Final Product





Conclusions

Given the results of this project, further development could examine what else can be done with this kind of technology. Instead of simply recommending some songs after identifying a user's mood, the application could recommend other things. This can include literature, videos, or even games.

Another initiative is to focus on ways to gain a more precise reading on the user's mood. The Google Vision API did provide a relatively easy way to get started and see results. However, it did have some limitations in the types of emotions it can detect and the general likelihood of each emotion. In future iterations, different emotion detection technology could be used. It should be able to detect more emotions with more accuracy.

Asking a user some additional questions may be useful as well. This way, the program will be less reliant on the recognition technology alone and create a more personalized user experience.

Works Cited

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Further Information

If you would like to learn more about this project, please visit the Open Lab Portfolio or contact Renuka.Sookdeosingh@mail.citytech.cuny.edu.