

Emotion Detection based Music Recommendation System

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Abstract: *The Emotion-Based Music Suggester (EBMS) presents a groundbreaking method for improving personalized music recommendations. Acknowledging emotions' pivotal role in music preferences, EBMS utilizes advanced machine learning to analyze emotions in lyrics, audio, and metadata. By merging user data with a hybrid recommendation model, EBMS crafts emotionally resonant suggestions. Verified through user studies, the system excels in delivering more profound and captivating music experiences. In an era of musical abundance, EBMS emerges as a promising pathway for offering emotionally engaging music suggestions that truly resonate with users.*

Keywords: Emotions , Music , Machine Learning , Music experiences

I. INTRODUCTION

In the modern landscape of digital music consumption, an intriguing amalgamation of technology and emotions has paved the way for innovative methods to elevate user experiences. At the forefront of this intersection stands the Emotion-Based Music Suggester (EBMS), a transformative concept poised to reshape the paradigm of personalized music recommendations. Acknowledging the inherent interplay between music and emotions, EBMS harnesses the prowess of advanced machine learning techniques to unravel the intricate emotional threads woven within musical compositions. By adeptly dissecting both the lyrical narratives and the auditory components, EBMS transcends the boundaries of conventional recommendation systems, ushering users into a realm where music becomes an immersive journey that resonates profoundly on an emotional plane.

Ease of Use

Emotion-Based Music Suggestions (EBMS) have been carefully designed keeping user-friendliness as a top priority. Its ease of use is manifested through several key features and functionalities:

Emotion Tagging:

EBMS employs a straightforward sentiment tagging system. Users do not need to have any special knowledge. They simply select the artist name and the AI will detect their current feeling and suggest them the songs as per the data. In this case it will driven to the YouTube link.

Effortless Music Discovery:

The primary purpose of an EBMS is to simplify music discovery.[3] Users are not bombarded with tons of options. Instead, they are presented with a curated selection of music recommendations tailored to their emotional preferences.

II. LITERATURE SURVEY

Human emotions constitute a profound aspect of our existence, shaping our experiences, decisions, and interactions. [2]Over the past few decades, in-depth research into the realm of emotions has unveiled a treasure trove of knowledge, yielding crucial insights that have far-reaching implications in various practical domains. This article divides into two particularly noteworthy discoveries resulting from this research.

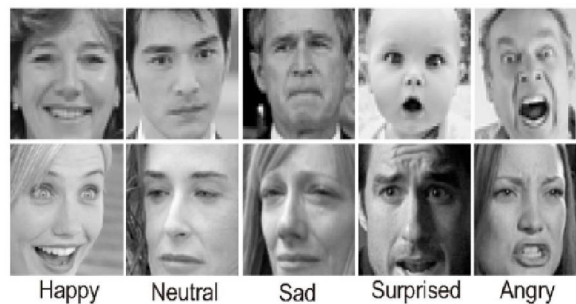
This paper explores the importance and novelty of expressing feelings, emphasizing subtle nuances in psychology [1]. It discusses the development of programs teaching individuals to read facial expressions of emotion and presents recent research validating the efficacy of these training programs [3]. The intersection of psychology and technology showcased in these endeavors enhances our understanding of emotional expression and practical applications for training individuals in emotional discernment.

The first of these discoveries highlights the remarkable similarity in how people from different parts of the world perceive and interpret facial expressions. Regardless of whether you're in New York or Tokyo, a smile signifies happiness, and a furrowed brow denotes concern. This universality underscores the biological and evolutionary basis of emotions, emphasizing that these expressions serve as innate signals that facilitate communication and understanding among humans.

The second significant discovery is the practical application of this universal understanding of facial expressions.[2] It has found wide-ranging use in various fields, from psychology and medicine to marketing and technology. For example, mental health professionals employ this knowledge to better diagnose and treat conditions like depression and anxiety by evaluating patients' facial expressions. In marketing, businesses leverage the universal appeal of certain facial expressions in advertisements to elicit emotional responses from consumers.[1]Even in the realm of artificial intelligence, facial recognition technology has been developed to interpret and respond to human emotions, enhancing human-computer interactions. In essence, the recognition of the universality of facial expressions has not only enriched our understanding of human emotions but has also translated into tangible applications that impact our daily lives.[2] It serves as a poignant reminder of the shared human experience, bridging gaps between cultures and enabling us to connect on a fundamental emotional level. These discoveries stand as testament to the profound value of research into the depths of human emotions and the practical benefits that can arise from such explorations.



The literature survey underscores the evolving landscape of personalized music recommendation systems, with a growing emphasis on understanding and incorporating emotions into the recommendation process. [1]Emotion-Based Music Suggesters represent a significant advancement in this domain, offering the potential for more emotionally resonant and engaging music discovery experiences.

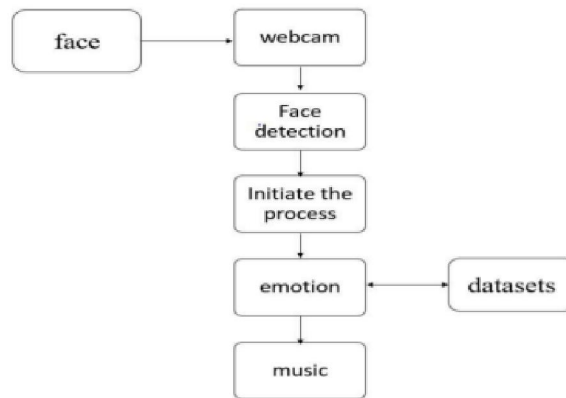


III. METHODOLOGY

The system automates interactions between the user and the music player, introducing an intelligent player that learns and adapts to emotions for personalized song selections. After an initial training phase, internal algorithms make informed choices aligning with the user's emotional state, enhancing the user experience with emotionally resonant music recommendations.

IV. SIMULATION RESULTS

The recreation results showed a Graphical User Interface which consists of two textboxes for language and artist respectively, the user just need to enter artist name and language and press the button beside the boxes then a screen appears which detects the emotion of the as the user pressed "Suggest" he/she is driven to the YouTube page as per its respective mood/emotion.



V. CONCLUSION AND FUTURE WORK

5.1 Conclusion

Music plays a pivotal role in modulating user experience, often serving as a stress alleviator. Recent advancements in technology have opened up extensive possibilities for the development of emotion-driven music recommendation systems. The proposed methodology revolves around augmenting the automatic song selection process through the precise detection of the user's emotional state.

The current music player, deployable locally, integrates with various wearable sensors to capture nuanced data that facilitates accurate mood predictions. This system, with its advanced features, necessitates a perpetual commitment to refinement and upgrades to stay abreast of evolving technological standards.[2] Additionally, an alternative avenue involves delving into additional emotional dimensions, potentially overlooked in the existing framework. This nuanced approach aims for a more comprehensive understanding of the user's emotional landscape, paving the way for an even more personalized and enriched music recommendation system.

REFERENCES

[1] Aryan Shirwadkar, Pratham Shinde, Sahil Desai, Samuel Jacob, International Journal for Research Engineering Technology (IJRASET),ISSN:, Volume 10 Issue XII Dec 2022.
 [2] MadhuriAthavle,DeepaliMudale,UpasanaShrivastav,MeghaGupta,Journal of Informatics Electronics Engineering, 2021, Vol. 02, Iss. 02, S. No. 018, pp. 1-11 ISSN (Online): 2582-7006
 [3] Vogler, C.M., & Dimitris (2004). Emotion -Based Communication in Human-Computer Interaction.[Ed. A.V.Camurri, Gualtiero. Vol. 2915: Springer Berlin Heidelberg. 247-258.]