ARTIVERSE 2.0

Team Name : **AGRO TECH TEAM**

Theme : "Leveraging AI and emotion recognition to create personalized music experiences based on the user's emotional state."

Title : Emotion-Based Music Player:

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ABSTRACT

The Emotion-Based Music Player is an innovative system designed to enhance user experience by integrating emotion recognition with personalized music recommendations. The system leverages Recurrent Neural Networks (RNNs) to analyze user emotions through text or speech input. By processing the emotional tone, sentiment, and contextual nuances of the input data, the system classifies the user's emotional state (e.g., happy, sad, relaxed, excited). Based on this emotional profile, the music player recommends tracks from a curated database that match or complement the user's current mood. The model's ability to understand dynamic emotional shifts through continuous feedback allows it to adapt and refine music suggestions over time. This paper explores the architecture of the emotion-based music player, detailing the use of Natural Language Processing (NLP) for text analysis and speech recognition technologies for voice inputs. Additionally, it investigates the integration of deep learning techniques for both emotion detection and music recommendation, offering a personalized, mood-aware listening experience. This approach aims to transform how users interact with music by aligning musical content with their emotional states, thus promoting emotional well-being and engagement.

KEYWORDS:

Emotion recognition, RNNs, music recommendation, sentiment analysis, personalized playlists, mood-based music, speech recognition, Natural Language Processing (NLP), deep learning, user experience.

PROGRAMMING LANGUAGES& TOOLS:

Programming Languages:

- Python
- JavaScript

Tools and Libraries:

- **TensorFlow / PyTorch**
- **Keras**
- **NLTK / SpaCy**
- **librosa**
- **SpeechRecognition**
- **Flask / Django**
- **React / Vue.js**
- **scikit-learn**
- **pandas / NumPy**
- **SQL / NoSQL databases**