TuneAura

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Abstract

TuneAura is a smart, mood-based music player designed to enhance user experience by dynamically selecting and playing music that matches the listener's emotional state. In an era where music is deeply intertwined with emotional well-being, manually choosing songs to suit one's mood can be tedious and imprecise. TuneAura addresses this by leveraging emotion recognition technologies such as facial expression analysis, voice tone detection, or manual input to identify the user's mood—categorized into states like happy, sad, relaxed, angry, or energetic. Based on this detection, the system curates and plays music that aligns with the user's current emotional context. By combining machine learning, emotion analysis, and multimedia management, TuneAura offers a personalized, intuitive, and emotionally responsive music experience. This project demonstrates how artificial intelligence can be used to create human-centric digital applications that adapt seamlessly to user emotions.

1 Introduction - TuneAura: A Mood-Based Music Player

In today's fast-paced digital world, music has become an essential part of human life—used not just for entertainment, but also as a tool for emotional regulation, motivation, and relaxation. However, manually choosing the right songs to match a listener's mood can often be time-consuming or ineffective. To bridge this gap between mood and music, we present ***TuneAura*** – a Mood-Based Music Player.

The core idea behind *TuneAura* is to create a seamless and personalized music experience that enhances emotional well-being. This project combines elements of machine learning, emotion recognition, and multimedia management, offering both technical innovation and real-world usability. It showcases how artificial intelligence can be used to make digital interactions more human-centric and emotionally responsive.

By the end of the project, *TuneAura* aims to deliver a user-friendly application capable of interpreting emotional cues and responding with appropriate musical content—making it a unique and interactive tool for music lovers.

Technologies Used:

Frontend:

HTML, CSS, JavaScript for the user interface React.js or Angular (optional for dynamic UI)

Backend:

Node.js with Express.js for server-side logic ,Python (optional) for mood detection algorithms

Mood Detection:

Computer ission libraries like NLTK, TextBlob, or pre-trained models for sentiment analysis Emotion recognition APIs or libraries (if using facial recognition or voice tone)

Database:

MongoDB or Firebase for storing user preferences, playlists, and song metadata **Music API:**

Spotify API / YouTube API / Any other music streaming API to fetch and play songs dynamically

Additional Tools:

OAuth for user authentication (if login is required) Web Audio API for playing and controlling music tracks

Key UI Components:

Mood Selection Screen

Optional

Music Player Screen

Playback controls
Playlist Display
Navigation Bar:
Responsive Design:

Design Style Suggestions: Color Scheme: Use calming colors for relaxed moods (blues, greens), warm colors for energetic moods (oranges, reds), and neutral tones for balanced UI elements.

Typography: Clean, modern fonts like Poppins, Roboto, or Montserrat.

Animations: Smooth transitions when switching moods or playing songs for an immersive feel.

Icons: Use expressive, minimal icons for moods and controls to keep the UI intuitive.