

Project Topic: Rhythmic tunes - Your melodic companion

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## 1. Introduction

Rhythmic Tunes – Your Melodic Companion is an innovative platform designed to provide users with a seamless music experience. It serves as a companion that helps users discover, organize, and enjoy music with intuitive features and personalized interaction.

## 2. Project Overview

Purpose: The purpose of Rhythmic Tunes is to create a user-friendly music application that allows users to enjoy songs, create playlists, interact through chats, and manage projects in a collaborative manner.

Features:

- Personalized playlists based on user preference.
- Interactive chat module for music discussions.
- Project management for collaborative music activities.
- Smooth authentication for secure access.
- Simple and attractive user interface.

## 3. Architecture

Frontend: Developed using modern frameworks like React.js for responsive and dynamic UI.

Backend: Powered by Node.js/Express.js for efficient server-side operations.

Database: MySQL/MongoDB for secure and scalable data storage.

## 4. Setup Instructions

Prerequisites: Node.js installed, Database setup (MySQL/MongoDB), Git for version control.

Installation Steps:

1. Clone the repository.
2. Install dependencies with npm install.
3. Configure environment variables.
4. Start frontend and backend servers.

## 5. Folder Structure

- /frontend – React.js application
- /backend – Node.js/Express.js server
- /database – Database schema and migrations

- /docs – Documentation and API references

## 6. Running in Application

Frontend: Run npm start in the frontend folder.

Backend: Run npm run dev in the backend folder.

Access: Open <http://localhost:3000> in the browser.

## 7. API Documentation

User: Manage user login, registration, and profile.

Projects: Handle playlist and project creation.

Chats: Manage user chat and messaging features.

## 8. Authentication

Secure login system with JWT-based token authentication to protect user data and provide role-based access.

## 9. User Interface

Clean and interactive interface with easy navigation, search bar for songs, playlist view, and chat panel.

## 10. Testing

Unit testing and integration testing are performed using Jest and Postman to ensure smooth functionality.

## 11. Demo Link

[https://drive.google.com/file/d/1ONuBq8dNZkecsZS\\_x1zUzaMD3FGURLQ/view?usp=drivesdk](https://drive.google.com/file/d/1ONuBq8dNZkecsZS_x1zUzaMD3FGURLQ/view?usp=drivesdk)

## 12. Known Issues

- Limited offline functionality.
- Chat feature may face occasional delays.

## 13. Future Enhancement

- AI-based music recommendation system.
- Advanced chat features (voice chat, group chat).
- Mobile app version for Android and iOS.