PROJECT DOCUMENTATION

Rhythmic tunes

1.Introduction

* Project title:Rhythmic tunes
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2. Project Overview

* Purpose:

Rhythmic tunes is a music-based web application designed to provide users with an engaging and interactive platform for listening to, discovering,and managing music. The project aims to enhance relaxation,entertainment, and productivity through rhythmic sound experiences.

* Features:
* Online music streaming
* Playlist creation and management
* Music search and recommendations
* Genre-based categorization
* User authentication & profile management
* Feedback and rating system
* Admin control panel (to manage tracks,users,and analytics)

3.Architecture

* Frontend:
* Built with reach.js (for interactive UI)
* Bootstrap/Tailwind CSS for stylish
* Material UI components
* Backend:
* Nodes.js with express.js to handle server logic and REST APIs
* Database:
* MongoDB stores user profiles,playlists,music metadata,ratings,and admin data
* Integration:
* AIPs for music streaming and search
* Authentication using JWT/OAuth

4. Setup instructions

* Prerequisites:
* Install node.js
* Install MongoDB
* Code editor (vs code recommended)
* Steps:
* Clone the repository
* Run npm install to install dependencies
* Start MongoDB server
* Run back server with npm start
* Run frontend with npm run dev

5. Folder structure

6.Running the application

* Frontend:

cd client

npm start

* Backend:

cd server

npm start

* Access:

Open in brower-

7.API Documentation

* User APIs:
* POST/api/user/register-Register user
* POST/api/user/login-User login
* Music APIs:
* GET/api/music/all-Fetch all songs
* POST/api/music/add-Add new track(Admin only)
* GET/api/music/:id-Fetch song details
* Playlist APIs:
* POST/api/playlist/create
* GET/api/playlist/:userId

8.Authentication

* JWT-based login system
* Middleware to protect private routes(like playlists,profile,admin panel)

9.User interface

* Landing page-welcome&music categorise
* User dashboard-playlist,favorites,history
* Admin panel-manage users & songs
* Song details page-tracks info,play options

10.Testing

* Manual testing:Feature-wise milestone testing
* Tools used:Postman(for APIs),chrome devTools(for debugging)

11.Screenshots or demo

12.Known issues

* Limited song database(currently sample tracks)
* No offline playback yet
* Recommendation engine is basic

13.Future enhancements

* AI-powered personalized recommendations
* Voice-controlled search
* Offline music support
* Real-time collaborative playlists
* Moblie app version

Conclusion:

Rhythmic tunes provides a complete musical experience for users by combining technology, entertainment,and user-friendly design. With future improvement,it has the potential to evolve into a full-fledged global music platform.