**Project Title:** Rhythmic Tunes: Your Melodic Companion

**Team ID:** NM2025TMID36620

**Team Members**

Team Leader: IMMANUVEL JEBARAJ M

Team Member: FRANKLIN ARWONISH J

Team Member: GAYATHRI T

Team Member: IMMANUEL A

**Abstract**

“Rhythmic Tunes: Your Melodic Companion” is an intelligent music-based application designed to

provide users with a personalized and engaging musical experience. The project aims to combine

music recommendation, rhythm analysis, and melodic assistance to help users explore new tunes,

improve their musical creativity, and enjoy customized playlists. The system integrates AI-driven

algorithms with user preferences to deliver an interactive melodic companion.

**Problem Statement**

Music lovers often face challenges in finding songs that match their mood, discovering new music,

and getting personalized recommendations. This project addresses these issues by creating a

smart and adaptive melodic companion.

**Objectives**

1. To design a music-based platform that offers intelligent song recommendations.

2. To analyze rhythm, tempo, and mood of songs.

3. To create playlists tailored to user preferences.

4. To provide a user-friendly interface.

5. To enhance engagement through adaptive learning.

**Proposed System**

The system collects user preferences, analyzes rhythm and mood, suggests songs, creates

playlists, and improves recommendations over time using AI.

**System Architecture**

1. Input Layer: User details, preferences, listening history.

2. Processing Layer: AI/ML-based recommendation engine, rhythm analysis.

3. Database: Song library with metadata.

4. Output Layer: Personalized playlists, song recommendations.

**Methodology**

- Requirement Analysis

- Design (UI/UX and system workflow)

- Development (Frontend + Backend + Database integration)

- Implementation of AI Recommendation Engine

- Testing & Debugging

- Deployment

**Technologies Used**

Frontend: HTML, CSS, JavaScript, React

Backend: Python (Flask/Django) or Node.js

Database: MySQL / MongoDB

AI/ML: Recommendation algorithms

Tools: GitHub, VS Code, APIs for music data

**Features**

- Mood-based playlist generation

- Rhythm & melody analysis

- AI-powered recommendation system

- User feedback loop

- Simple user interface

**Testing**

- Unit Testing: Modules tested individually.

- Integration Testing: Checked frontend, backend, and database.

- User Testing: Feedback-based improvements.

**Expected Outcomes**

- Personalized playlists.

- Enhanced music discovery.

- Intelligent adaptive learning.

- Improved user engagement.

**Conclusion**

“Rhythmic Tunes: Your Melodic Companion” will serve as an innovative platform by providing

rhythm-based recommendations, personalized playlists, and adaptive features, bridging the gap

between user expectations and existing music platforms.