Frontend Development with React.js

Project Documentation – Rhythmic Tune

1. Introduction

- Project Title: Rythamic tune
- Team Members:
  - Gopika.k – code Execution
- Mathivadhani.T- demovideo/voiceover
- Abarna Balaji.R- Demovideo/editor
- Monica.K- Docmentation

2. Project Overview

- Purpose:
  - Rhythmic Tune is a music-based web application that allows users to explore, play, and organize their favorite tunes. It provides a smooth, interactive, and visually appealing interface for discovering songs and creating playlists.
  - Features:
    - Music player with play, pause, next, and previous controls
    - Playlist creation and management
    - Search functionality for tracks/artists
    - Responsive UI for mobile and desktop

3. Architecture

- App.js – Root component
- Navbar.js – Navigation bar
- MusicPlayer.js – Core music player controls

- Playlist.js – Playlist management
- SearchBar.js – Search functionality
- SongCard.js – Individual song display

- State Management:
  - Context API is used for global state (e.g., currently playing song, playlists).

- Routing:

React Router is used with routes such as:

- / – Home (trending tunes)
- /playlist – User playlists
- /search – Search reacre

4. Setup Instructions

- Prerequisites:
  - Node.js, npm, Git
  - Installation:
  - git clone https://github.com/your-repo/rhythmic-tune.git
  - cd rhythmic-tune
  - npm install
  - npm start

5. Folder Structure

- Client:

- Src/
- components/
- Navbar.js
- MusicPlayer.js
- Playlist.js
- SongCard.js

  Pages/
- Home.js
- Search.js
- Playlist.js
- Assets/
- images/
- icons/
- utils/
- helpers.js

- Utilities
  - : Helper functions for API calls and reusable hooks

6. Running the Application

- Frontend:
  - npm start

7. Component Documentation

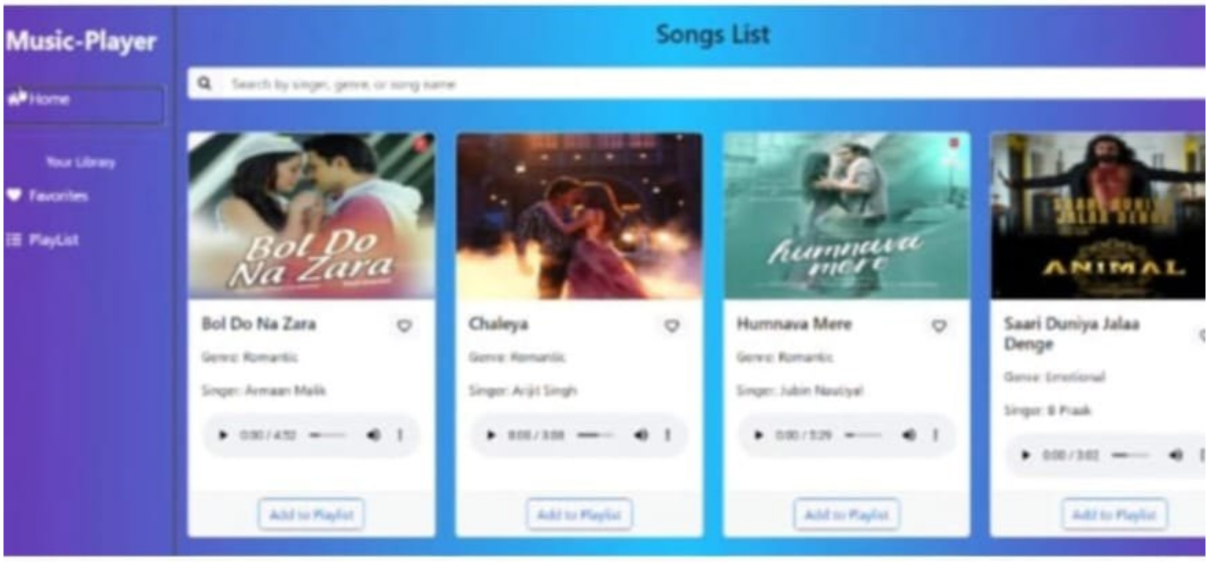
Key Components:

- MusicPlayer – Handles audio controls, progress bar, volume.
- Playlist – Stores and displays songs added by the user.
- SearchBar – Allows searching for tracks/ artists.
- Reusable Components:
- SongCard – Displays song details consistently across pages.
- Button – Custom reusable button componen

8. State Management

- Global State: Current track, playlist data, theme (dark/light).l State: Input fields for search, toggle states for UI elements.

9.User Interface



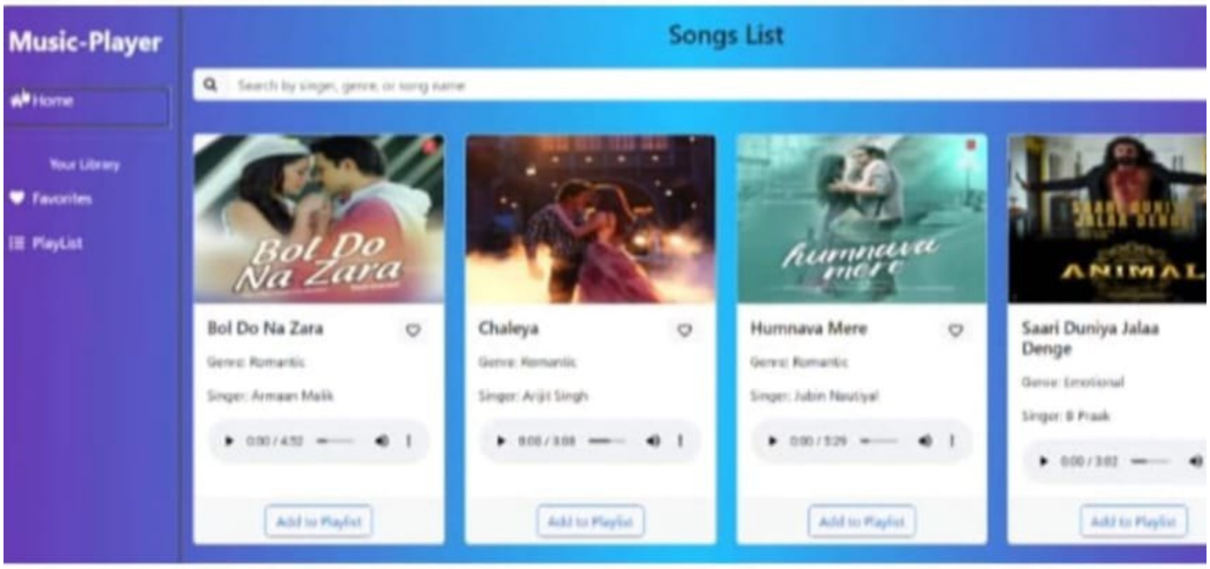
10. Styling

- CSS Frameworks/Libraries: Tailwind CSS for styling, Styled-Components for scoped CSS.
- Theming: Dark/Light theme toggle with persistent local storage.

11. Testing

- Testing Strategy:
- Unit testing with Jest for core functions
- Component testing with React Testing Library
- Integration testing for player and playlist
- Code Coverage:
- Measured using Jest coverage tools.

12. Screenshots or Demo

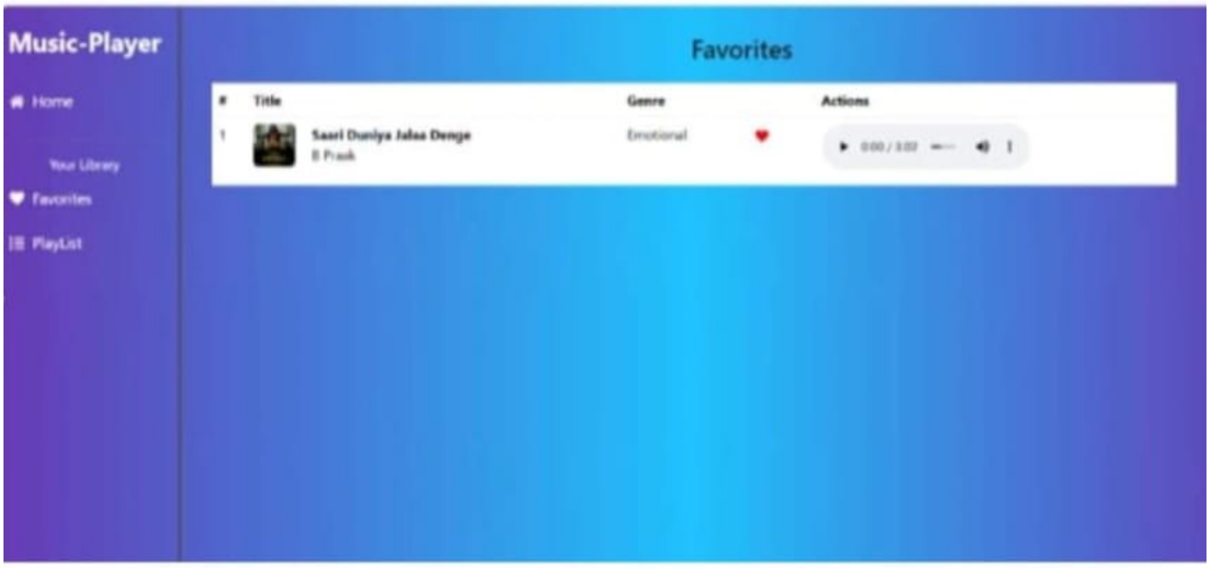


Bol Do Na Zara
Genre: Romantic
Singer: Armaan Malik
0:00 / 4:52

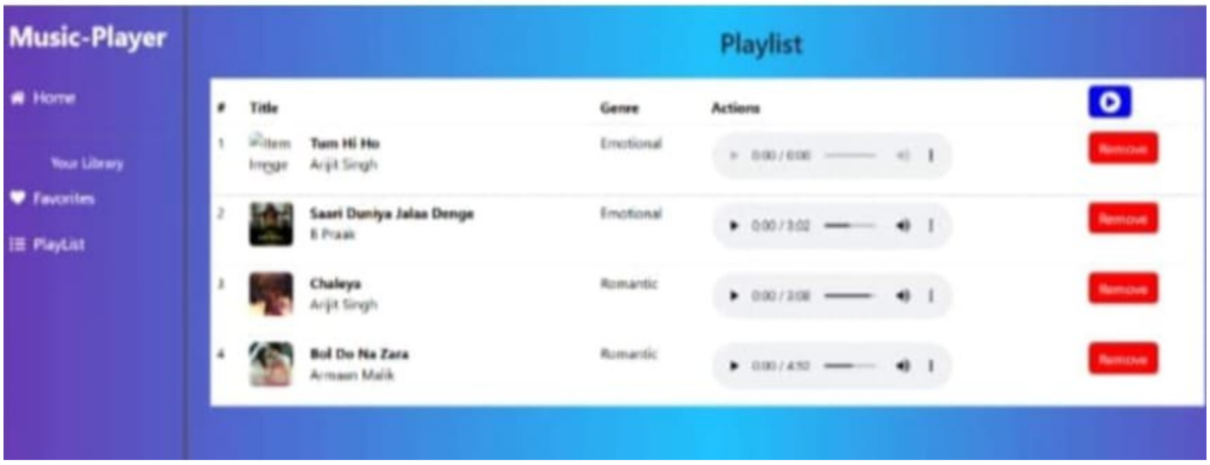
Chaleya
Genre: Romantic
Singer: Arijit Singh
0:00 / 3:08

Humnava Mere
Genre: Romantic
Singer: Jubin Nautiyal
0:00 / 5:29

Saari Duniya Jalaa Denge
Genre: Emotional
Singer: B Praak
0:00 / 3:02



#	Title	Genre		Actions
1	Saari Duniya Jalaa Denge B Praak	Emotional	♥	0:00 / 3:02



#	Title	Genre	Actions	
1	Item Image Tum Hi Ho Arijit Singh	Emotional	0:00 / 0:00	Remove
2	Saari Duniya Jalaa Denge B Praak	Emotional	0:00 / 3:02	Remove
3	Chaleya Arijit Singh	Romantic	0:00 / 3:08	Remove
4	Bol Do Na Zara Armaan Malik	Romantic	0:00 / 4:52	Remove

13. Known Issues

- Limited offline support.

- Audio may lag on very low-end devices Currently supports only basic playlist features (no sharing).

14. Future Enhancements

- Add user authentication for personalized playlists.
- Support for offline playback.
- Integration with third-party music APIs (Spotify, SoundCloud).
- Advanced audio visualizations and animations.
- Social features – share playlists with friends.