# Frontend Development with React.js

## Project Documentation

### 1. Introduction

- Project Title : Rhythmic Tunes: your melodic companion
- TEAM LEADER: : VIDHYA D
- ROLE : CODING AND DEVELOPMENT
- TEAM MEMBER : VIKASHINI D
- ROLE : CODING AND DEVELOPMENT
- TEAM MEMBER : YUVAMALA M
- ROLE : DEMO VIDEO
- TEAM MEMBER : SUMITHRA M
- ROLE : DOCUMENT CREATER

2. **Project Overview**
    - **Purpose**: The purpose of the Rhythmic Tunes Music Player is to provide a user-friendly application for playing music..
    - **Features**: Key features include: music playback, playlist creation, and search functionality.
3. **Architecture**
    - **Component Structure**: Key features include: music playback, playlist creation, and search functionality.
    - **State Management**: The application uses the Context API for global state management to handle the current song, playback status, and user-created playlists.
    - **Routing**: React Router is used to manage navigation between different views, such as the home page and the playlist page
4. **Setup Instructions**
    - **Prerequisites**: The required software dependencies are Node.js and npm ,React.js.
    - **Installation**: Provide a step-by-step guide to Clone the repository from GitHub. Navigate to the client directory.
    - * Run npm install to install dependencies.
    - * Configure environment variables for any API keys
5. **Folder Structure**
    - **Client**: The main React application is organized into folders such as components, pages, and assets for images and audio files.
    - **Utilities**: Helper functions for music playback and custom hooks for managing audio state are located in the utils folder
    - **Code**:
    - project-name/
    - ├── public/
    - │ ├── index.html
    - │ └── favicon.ico
    - ├── src/
    - │ ├── assets/

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    - │ │ ├── images/
    - │ │ └── styles/
    - │ ├── components/
    - │ │ ├── Header.js
    - │ │ ├── Footer.js
    - │ │ └── ...
    - │ ├── containers/
    - │ │ ├── App.js
    - │ │ └── ...
    - │ ├── actions/
    - │ │ ├── index.js
    - │ │ └── ...
    - │ ├── reducers/
    - │ │ ├── index.js
    - │ │ └── ...
    - │ ├── utils/
    - │ │ ├── api.js
    - │ │ └── ...
    - │ ├── index.js
    - │ └── setupTests.js
    - ├── tests/
    - │ ├── components/
    - │ │ ├── Header.test.js
    - │ │ └── ...
    - │ └── ...
    - ├── .git.ignore
    - ├── package. json
    - └── README.md
6. **Running the Application**
    - Provide commands to start the frontend server locally.
        - **Frontend**: npm start in the client directory.
7. **Component Documentation**
    - **Key Components**: Manages music playback controls. It receives a song prop.
    - * Playlist Component: Displays the list of songs and manages playlist creation.
    - * Search Component: Handles searching for songs
    - **Reusable Components**: Button Component: A configurable button component used throughout the application.
    - * Song Card Component: A component for displaying individual songs in lists.
8. **State Management**
    - **Global State**: The Context API is used to manage the global state, ensuring that the current song and playback status are accessible to all components..
    - **Local State**: se use State hooks to manage their own local state, such as form inputs or UI toggles
9. **User Interface**
    - Provide screenshots or GIFs showcasing different UI features, such as pages, forms, or interactions.

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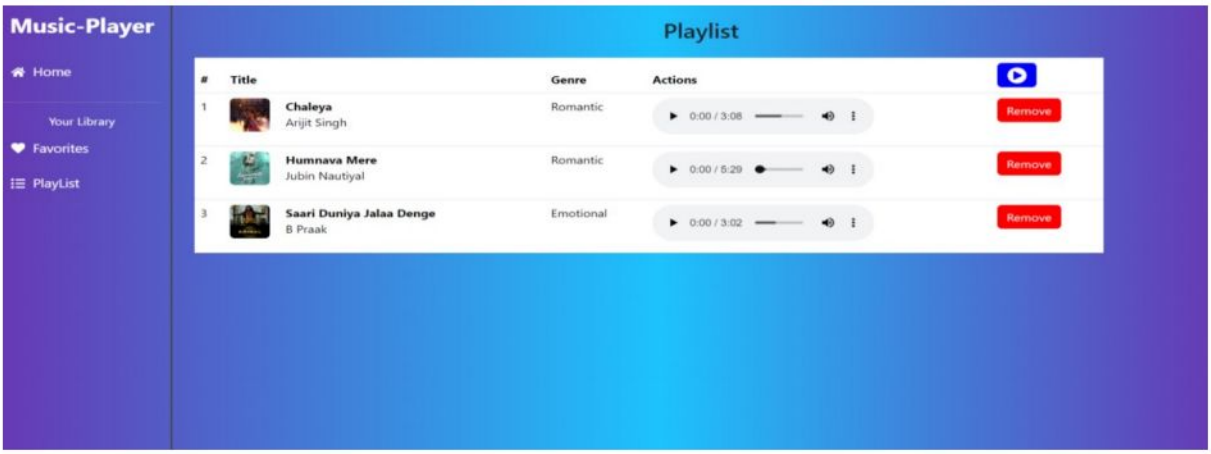
10. **Styling**

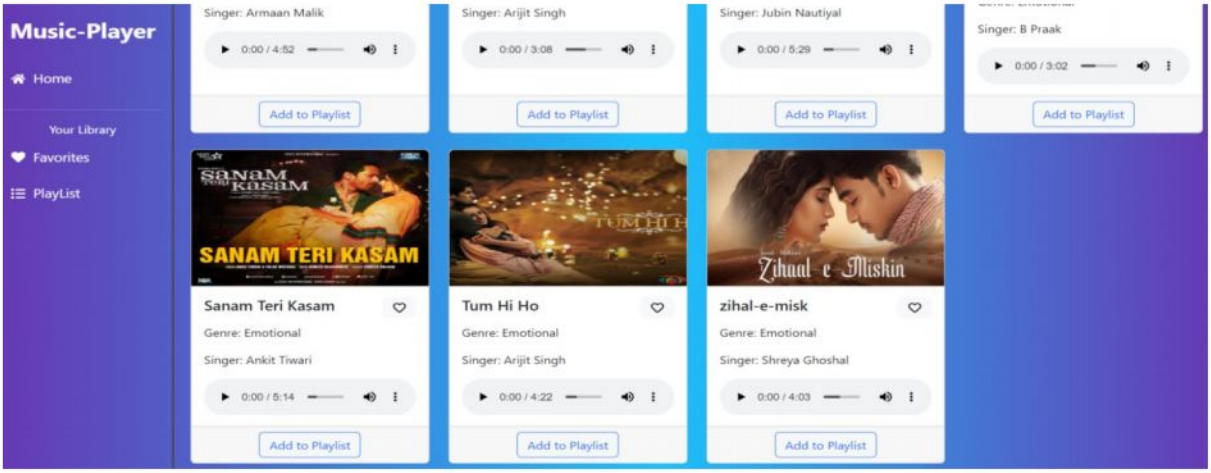
- **CSS Frameworks/Libraries**: Describe any CSS frameworks, libraries, or pre-processors (e.g., Sass, Styled-Components) used.
- **Theming**: A custom design system with light and dark themes is implemented

11. **Testing**

- **Testing Strategy**: The application uses Jest and React Testing Library for unit and integration testing of components.

12. **Code Coverage**: Code coverage is tracked using a tool to ensure all key components are adequately tested.
13. **Screenshots or Demo:**



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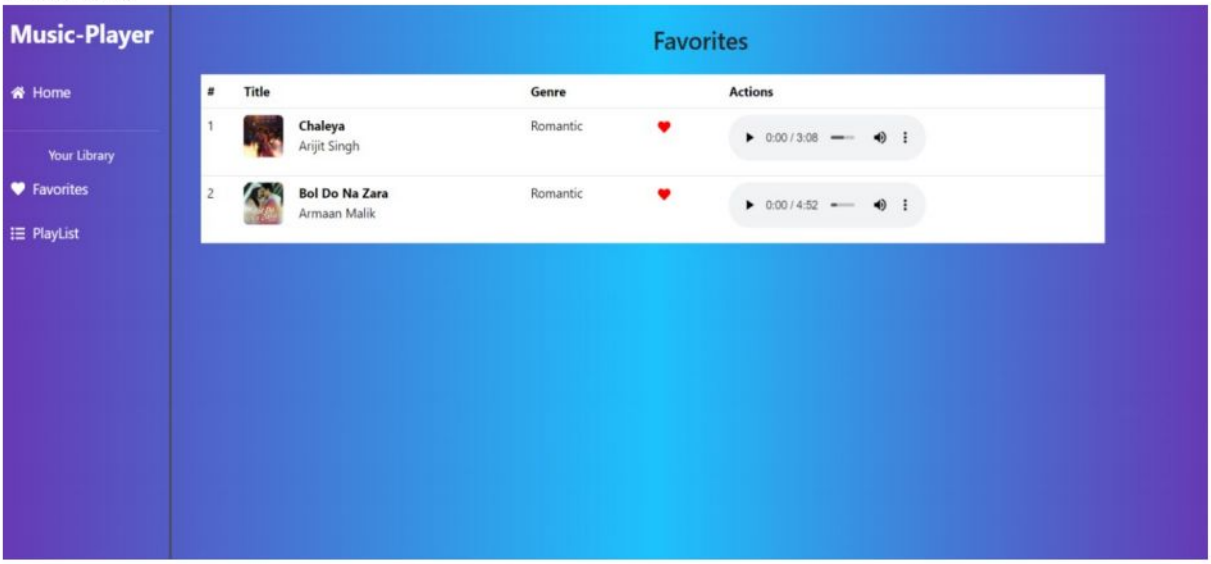


13. **Known Issues**

- Any known bugs or issues, such as occasional playback glitches on certain browsers, should be documented here

14. **Future Enhancements**

- Potential future features could include a user authentication system, enhanced search functionality, and adding more animations to the user interface.

**15. DEMOLINK:**

- https://drive.google.com/file/d/1DozFUIo3wyvhVFyyd-E3alVq5Dy_BK54/view?usp=sharing