

Software Requirements Specification

For

MELODISE - A Music Streaming Application

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Chapter 1

Introduction

1.1 Purpose

MELODISE is a music streaming platform that allows artists to upload their music and enables users to listen to and engage with content. The platform provides a structured way for artists to manage their profiles and music releases, while users can browse and stream songs based on their preferences. Administrators are responsible for monitoring platform activity, managing users, and moderating uploaded content.

1.2 Intended Audience

- Artists – Can upload music, edit their profiles, and manage their released songs.
- Users – Stream music, create playlists, follow artists, and engage with music content.
- Administrators – Oversee content moderation, manage users, and maintain system integrity.

1.3 Scope

MELODISE offers the following core functionalities:

1.3.1 User authentication

- Secure login and registration for artists, users, and administrators.
- A playlist creation feature will allow users to organize and save their favorite songs.
- Artists can track engagement metrics such as play count song performance.

1.3.2 Music management

Artists can upload, edit, and delete songs.

1.3.3 Streaming services

Users can search and play songs.

1.3.4 Event scheduling

Artists can create and manage upcoming music events.

1.3.4 Administration tools

Admins can manage user accounts and moderate platform content.

Chapter 2

Overall Description

2.1 Product Perspective

MELODISE is a web-based application built with PHP and MySQL. The platform provides a seamless interface for artists to manage their music and for users to stream content. The backend handles music file storage, user authentication, and database interactions, while the frontend delivers an intuitive user experience.

2.2 User Classes and Characteristics

2.2.1 Artists

- Can register and log in to their accounts.
- Upload and manage their music files.
- Schedule and manage music events.
- View insights on their uploaded content.

2.2.2 Users

- Can register and log in to their accounts.
- Search for songs by artist name or album title.
- Stream music from available tracks.

2.2.3 Administrators

- Monitor and manage user accounts.
- Remove inappropriate or flagged content.
- Maintain platform security and database integrity.

2.3 Operating Environment

2.3.1 Platform

Web-based (Google Chrome, Mozilla Firefox, Safari, Edge).

2.3.2 Backend

PHP with MySQL 8.0 database.

2.3.3 Frontend

HTML, CSS, JavaScript (Bootstrap for responsive design).

2.3.4 File Management

- Supports MP3 format for uploaded songs.
- The platform will support cloud storage integration to optimize storage management and scalability.
- Songs will be encoded using standardized bitrates to ensure smooth streaming without quality loss.

2.4 Constraints

2.4.1 File format restriction

Only MP3 files are allowed for uploads.

2.4.2 User authentication

All interactions require a registered account.

2.4.3 Database limitations

Performance depends on MySQL scalability and hosting environment.

2.4.4 Content moderation

Admins must manually review flagged content.

2.5 Assumptions and Dependencies

2.5.1 Internet connection

Required for streaming and uploads.

2.5.2 Artist responsibility

Artists must upload legally owned content.

2.5.3 Server performance

Depends on hosting infrastructure for handling concurrent users.

Chapter 3

Requirements

3.1 Functional Requirements

3.1.1 User Authentication & Profile Management

- Users and artists must register with an email and password.
- Login authentication is required for accessing profile-based features.
- Artists can update their profile information.
- Admins can approve or disable user accounts.

3.1.2 Music Upload & Management

- Artists can upload MP3 files with metadata (title, album, genre, release date).
- Artists can edit song details or delete their uploaded tracks.
- Uploaded songs are stored securely in the server.
- Admins can remove reported or inappropriate content.

3.1.3 Music Streaming & Playback

- Users can stream music directly from the platform.
- Search functionality allows users to find songs by artist name and album title.
- Playback controls include play, pause, and seek functionalities.
- A queue and autoplay feature allows continuous playback of songs without manual selection.

3.1.4 Event Management

- Artists can create events with details (event title, date, time, location).
- Users can view upcoming events from artists.
- Admins can moderate event listings.

3.1.5 Admin Panel

- Admins can view a list of all registered users and artists.
- Admins can deactivate or delete user accounts if necessary.
- Admins have the authority to remove flagged songs and events.

3.2 Non-Functional Requirements

3.2.1 Performance

- Songs should load within 2 seconds on a stable internet connection.
- Music streaming should utilize adaptive bitrate streaming for a seamless experience under varying network conditions.
- Database queries should be optimized for minimal latency

3.2.2 Security

- Passwords must be encrypted before storage.
- Secure HTTPS connections should be enforced.
- Admin authentication requires additional security measures.

3.2.3 Usability

- The platform should have an intuitive UI for easy navigation.
- Mobile responsiveness must be maintained for optimal user experience on different screen sizes.

Chapter 4

System Features

4.1 Artist Dashboard

- Allows artists to upload, edit, and delete their music.
- Displays statistics on song performance.
- Provides an interface for scheduling events.

4.2 Music Streaming

- Users can browse, search, and play music.
- Songs display relevant metadata (artist name, album, duration).

4.3 Admin Features

- View and manage all user accounts.
- Remove reported or flagged content.
- Oversee artist uploads and events.

Chapter 5

Conclusion

MELODISE is a structured platform that enables artists to share their music and engage with audiences. With robust music management, streaming capabilities, and administrative controls, the platform ensures a seamless experience for both artists and users. The system is designed with scalability in mind, allowing for future enhancements and improvements as the platform grows.