

Software Requirements Specification

for

Music and Entertainment

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Revision History

Name	Date	Reason for changes	Version
H.S.V. Jayarathne	03.06.2025	Initial draft of the SRS document	1.0
H.S.V. Jayarathne	04.06.2025	Added user classes, product functions, and Use case diagram	1.1
H.S.V. Jayarathne	05.06.2025	Finalized system features and non-functional requirements and appendix	1.2

01. Introduction

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to clearly explain what a music streaming platform - like Spotify - should do, how well it should work, and any limits it may have. The platform is made to let users easily listen to music and podcasts from different genres, languages, and regions.

This document includes both the functional and non-functional requirements that help in designing and improving the system. It also helps everyone involved - like developers, testers, and users - understand the goals and features of the platform.

By studying an existing platform, this SRS shows how real systems work and follow best practices in areas like user experience, content organization, and streaming performance. It also provides a strong base for future improvements or learning in the field of music and entertainment.

1.2 Document Convention

- **Bold Text** for section headings and key terms.
- Numbering system used to classify requirements: FR-1, NFR-1, etc.
- IEEE 830 format is followed throughout the document.

1.3 Intended Audience and Reading Suggestions

This document is intended for:

- **Software engineering students** studying system analysis.
- **Developers** who plan to implement the system.
- **Testers** validate the functionality.
- **Project supervisors/lecturers** evaluating the student work.

1.4 Product Scope

The music streaming platform allows users to:

- Stream music and podcasts.
- Create and manage playlists.
- Search and discover music.
- Receive personalized recommendations.
- Use free or premium accounts (with extra features like offline playback).

The system will be accessible via mobile apps and web interfaces and integrates with smart devices for cross-platform accessibility.

1.5 References

- Spotify official website: <https://www.spotify.com/>
- IEEE 830-1998 Standard for SRS

02.Overall Description

2.1 Product Perspective

This platform is modeled after Spotify, functioning as a centralized digital streaming service providing audio content over the internet.

2.2 Product Functions

Common Functions (All Users)

- User Registration and Login
- Search for Music
- Browse Music by Genre, Artist, Album
- View Song/Album/Artist Details

Guest Users

- Browse music content (no streaming)
- View artist and album information

Registered Users (Free)

- Stream music with advertisements
- Create and manage playlists
- Like and rate songs
- Share music to social platforms
- View recent plays and recommend playlists
- Newly released music

Premium Users

- All features of Free users, plus:
 - Ad-free music streaming
 - Offline music downloads
 - High-quality audio streaming

Artists

- Upload and manage their own music content
- Edit artist profile and track information
- View of listener statistics and feedback

Admin

- Manage user accounts and permissions
- Approve/reject uploaded music
- Monitor platform activity
- Remove or flag inappropriate content
- Generate platform usage reports

2.3 User Classes and Characters

- **Guest Users** : Can browse but not stream.
- **Registered Users (Free)** : Can stream with ads.
- **Premium Users** : Ad-free experience and offline downloads.
- **Artists** : Upload music and interact with fans.
- **Admin** : Manages content and user activities.



Figure 1- Use Case Diagram

2.4 Operating Environment

- Android/iOS mobile apps
- Modern web browsers (Chrome, Firefox, Edge)
- Internet connection (3G, 4G, Wi-Fi)

2.5 Design and Implementation

- Must comply with copyright laws.
- High availability and low latency required.
- Use existing APIs for music content.

2.6 User Documentation

- User guide/manual
- FAQ section in app and website
- Help and support center access

2.7 Assumptions and Dependencies

- Users have internet access.
- Content licenses are obtained.
- Third-party APIs are available and reliable.

03.External Interface Requirement

3.1 User Interfaces

- Responsive UI for mobile and web
- Dark/light mode support
- Simple and intuitive navigation

3.2 Hardware Interfaces

- Compatible with mobile devices, PCs, and smart speakers.

3.3 Software Interfaces

- Integration with music databases
- Login APIs (e.g., Google, Facebook OAuth)
- Payment gateways (Stripe, PayPal)

3.4 Communication Interfaces

- HTTPS protocol for secure communication
- API access for third-party apps

04.System Features

4.1 User Registration and Login

- FR-1 : Users can register using email or social accounts.
- FR-2 : Users can securely log in and reset passwords.

4.2 Music Playback and Control

- FR-3 : Users can stream music.
- FR-4 : Users can play, pause, and skip tracks.

4.3 Playlist Management

- FR-5 : Users can create, update, and delete playlists.

4.4 Search and Discovery

- FR-6 : Users can search music by name, genre, artist.
- FR-7 : Trending and recommended tracks displayed.

4.5 Premium Subscription

- FR-8 : Users can upgrade to premium.
- FR-9 : Premium users can download tracks for offline use.

05.Other Non-functional Requirements

5.1 Performance Requirements

- NFR-1 : The system should handle 10,000+ users simultaneously.
- NFR-2 : Music playback should start within 2 seconds.

5.2 Safety Requirements

- NFR-3 : Regular backups to prevent data loss.

5.3 Security Requirements

- NFR-4 : Passwords should be encrypted.
- NFR-5 : User sessions must time out after inactivity.

5.4 Software Quality Attributes

- NFR-6 : System should have 99.9% uptime.
- NFR-7 : The UI must be responsive and accessible.

5.5 Business Requirements

- NFR-8 : System must support freemium model.
- NFR-9 : Analytics dashboard for admin insights.

06.Other Requirements

- Multi-language support for global users.
- GDPR compliance for user data privacy.

Appendix

Appendix A

Term	Definition
Streaming	Playing audio content in real-time over the internet without full download.
Playlist	A user-curated list of songs grouped for easy access or themed enjoyment.
Registered User	A user who has signed up for the platform with limited streaming access and advertisements.
Premium User	A paid user who enjoys ad-free music, high-quality streaming, and offline downloads.
Artist	A content creator who can upload their music and engage with their audience.
Admin	A system manager who controls content, handles user management, and ensures platform policy compliance.
Offline Download	A feature that allows premium users to download songs for listening without internet.
Browse	A feature that allows users to explore songs, albums, artists, or playlists.
Genre	A category of music (e.g., pop, classical, rock) used to organize and filter content.
High-Quality Streaming	Playback of audio in enhanced sound quality, usually available to premium users.
Listener Statistics	Metrics and insights about how often and when songs are played or skipped.

Appendix B

- Use case diagram included under ‘2.3 User classes and Characteristics’ section.

Appendix C

Item	Description	Status
Multilingual Interface	Support for Sinhala, Tamil, and English User Interfaces.	TBD