<Music streaming website>

Vision Document

Version <1.0>

Revision History

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Vision (Small Project)

# Introduction

# Positioning

## Problem Statement

| The problem of | Sharing |
| --- | --- |
| Affects | People who enjoy music and artist |
| The impact of which is | Many music streaming platforms need to pay for good quality of music or aren't rich in music resources which is not very friendly with those people who just simply want to listen and share music with their friends. |
| A successful solution would be | A free platform where people can listen to high-quality music with a massive music library and also upload their own music. |

## Product Position Statement

| For | Everyone |
| --- | --- |
| Who | Listen and share musics |
| The (product name) | Sound97 |
| That | Allows user to upload their own music or just listen to the music that had been uploaded by other people/artist(s) |
| Unlike | Spotify, Tidal, Apple music. |
| Our product | Create a place for everyone who loves music and want to share their hobby with other people. |

# User Descriptions

## User Profiles

* Guests:
  + Avatar: (optional)
  + Name/Type of User: Guest User
  + Perspective: Casual listeners looking for a way to enjoy music without signing up.
  + Role/Task/Responsibility: Stream music, discover new playlists, and enjoy the service's features with some limitations.
  + Skills: Basic internet navigation and music streaming knowledge.
  + Experience: Familiar with using apps and websites for streaming music but may not have in-depth technical skills.
  + Frequency of Use: Occasionally, depending on their needs and interests in music.
  + Age, Gender, Culture, Interests: Varied; typically ranges from 15 to 45 years old, mixed genders, with diverse cultural backgrounds and a general interest in music.
  + Habits: Enjoys exploring new music trends; may share their favorites with friends.
  + Expectations, Desires: Access to a wide range of music, ease of use, and the ability to discover trending playlists.
  + Limitations/Constraints: Daily limit on the number of songs they can listen to, limited features compared to logged-in users.
  + Other Relevant Attributes: Might prefer mobile devices for convenience.
* Logged-in Users:
  + Avatar: (optional)
  + Name/Type of User: Registered User
  + Perspective: Regular users who want full access to music streaming features.
  + Role/Task/Responsibility: Stream music without limits, create playlists, and follow artists.
  + Skills: Proficient in navigating online music platforms; capable of utilizing social media for sharing.
  + Experience: Experienced users of music streaming apps and social platforms.
  + Frequency of Use: Frequent; often uses the app daily or several times a week.
  + Age, Gender, Culture, Interests: Typically ages 18-35, mixed genders, often tech-savvy with diverse music tastes.
  + Habits: Regularly creates playlists, shares music with friends, and engages with artists.
  + Expectations, Desires: Personalized music recommendations, ability to download music for offline listening, and notifications for new releases.
  + Limitations/Constraints: None significant, but might have data limits on mobile plans affecting streaming.
  + Other Relevant Attributes: May engage in music discussions on social media platforms.
* Artists:
  + Avatar: (optional)
  + Name/Type of User: Music Artist
  + Perspective: Creative individuals aiming to share their music and grow their audience.
  + Role/Task/Responsibility: Upload music, interact with fans, and analyze performance statistics.
  + Skills: Musical talent, familiarity with social media marketing, and basic data analytics.
  + Experience: Varies from emerging artists to established musicians; some may have professional recording experience.
  + Frequency of Use: Regular; frequently logs in to manage content and engage with listeners.
  + Age, Gender, Culture, Interests: Typically 20-40 years old, diverse gender representation, and varied musical backgrounds.
  + Habits: Actively promotes their music through social media and engages with followers.
  + Expectations, Desires: Tools for analytics, monetization options, and support for audience engagement.
  + Limitations/Constraints: May face challenges in marketing or accessing production resources.
  + Other Relevant Attributes: Interested in collaborations with other artists or producers.
* Admin:
  + Avatar: (optional)
  + Name/Type of User: Administrator
  + Perspective: Responsible for maintaining the platform's integrity and user experience.
  + Role/Task/Responsibility: Manage users, moderate content, and ensure compliance with policies.
  + Skills: Strong understanding of user management systems, content moderation tools, and conflict resolution.
  + Experience: Experienced in administration roles, possibly within tech or media industries.
  + Frequency of Use: Daily; continuously monitors platform activity and user interactions.
  + Age, Gender, Culture, Interests: Typically, 25-50 years old, mixed genders, often with a background in technology or media.
  + Habits: Regularly reviews user reports, engages with content creators, and updates policies.
  + Expectations, Desires: Efficient tools for user management, clear reporting mechanisms, and insights into platform usage.
  + Limitations/Constraints: May be constrained by company policies and resource availability.
  + Other Relevant Attributes: Prioritizes user satisfaction and compliance with ethical standards.

## User Task and Environment

* **Task: Stream Music**
  + **Goal of the Task**: Users can listen to music from the platform's vast library without interruptions.
  + **Who Performs the Task**: Guests and Logged-in Users.
  + **Where the Task is Performed**: At home, in the office, or anywhere with an internet connection (on mobile devices or computers).
  + **Frequency of Task Performance**: Daily or as needed, often accessing to listen to new music.
  + **Task Constraints**:
    - Guests have a limit on the number of songs they can listen to in a day.
    - A stable internet connection is required to stream music.
  + **Other Relevant Information**: Users can create personal playlists or add songs to their favorites.
* **Task: Create Personal Playlist**
  + **Goal of the Task**: Users can create their own playlists for easy access to their favorite songs.
  + **Who Performs the Task**: Logged-in Users.
  + **Where the Task is Performed**: At home or anywhere with access to the app.
  + **Frequency of Task Performance**: Weekly or monthly, depending on the user's listening habits.
  + **Task Constraints**:
    - Must be logged in to use this feature.
    - Users can add or remove songs but must adhere to the app's policies.
  + **Other Relevant Information**: Users can share their playlists with friends through social media.
* **Task: Follow Favorite Artists**
  + **Goal of the Task**: Users can follow their favorite artists to receive notifications about new releases.
  + **Who Performs the Task**: Logged-in Users.
  + **Where the Task is Performed**: At home or while on the go.
  + **Frequency of Task Performance**: Frequently, especially when artists release new music.
  + **Task Constraints**:
    - Must have an account and be logged in to follow artists.
    - Users need to check and update their follow list regularly.
  + **Other Relevant Information**: Notifications about new releases will be sent through the app.
* **Task: Upload Music**
  + **Goal of the Task**: Artists can upload their songs or albums to share with listeners.
  + **Who Performs the Task**: Artists.
  + **Where the Task is Performed**: At home or in a studio, where they have access to the uploading equipment.
  + **Frequency of Task Performance**: As needed, usually when they have new releases or recordings.
  + **Task Constraints**:
    - Artists need to have a verified account to perform this task.
    - Must comply with copyright regulations and the app's content policies.
  + **Other Relevant Information**: Artists can choose music genres for their songs during the upload process.
* **Task: Moderating Content**
  + **Goal of the Task**: Administrators check and adjust content on the platform to ensure compliance with policies.
  + **Who Performs the Task**: Admins.
  + **Where the Task is Performed**: At the office or anywhere with access to the admin system.
  + **Frequency of Task Performance**: Daily, depending on user traffic and uploaded content.
  + **Task Constraints**:
    - Requires the highest level of access in the system.
    - Must perform content checks on a schedule and respond to user reports.
  + **Other Relevant Information**: Admins need to update policies and regulations as needed based on current content.

## Alternatives and Competition

* Soundcloud:
  + Strength: Users/Artists can upload their music completely free; people can stream music continuously and not get interrupted by ads.
  + Weakness: Don’t have offline mode; average quality of music; user-interface isn’t so friendly.
* Spotify:
  + Strength: Very friendly user-interface; multi-platform compatibility.
  + Weakness: Need a subscription to use offline mode and not get interrupted by ads while streaming music; artists need to pay to upload their own music

# Product Features 🡪 Functional user requirements

* **Music Streaming**
  + **Description**: Users can stream a vast library of music in real-time, allowing for continuous listening without downloads.
  + **Inputs Required**: User account information (for logged-in users), internet connection.
  + **Expected Outcome**: Users enjoy uninterrupted access to a wide variety of songs across different genres.
* **Playlist Creation**
  + **Description**: Users can create, edit, and delete their own playlists, enabling them to organize their favorite tracks according to their preferences.
  + **Inputs Required**: Selection of songs to add to a playlist, user-defined playlist name.
  + **Expected Outcome**: Users have personalized playlists that enhance their listening experience.
* **Artist Following**
  + **Description**: Users can follow their favorite artists to receive notifications about new releases, concerts, and updates.
  + **Inputs Required**: User account actions to follow artists.
  + **Expected Outcome**: Users stay updated on their favorite artists' latest activities and releases.
* **Music Search and Filter**
  + **Description**: Users can search for specific songs, albums, or artists using keywords, and filter results based on genres, themes, or popularity.
  + **Inputs Required**: Search terms, filter criteria (genre, popularity, etc.).
  + **Expected Outcome**: Users quickly find the music they want to listen to, improving user satisfaction.
* **Song Recommendations**
  + **Description**: The system provides personalized song recommendations based on users’ listening history and preferences.
  + **Inputs Required**: User listening history, song ratings (if applicable).
  + **Expected Outcome**: Users discover new music that aligns with their tastes, enhancing engagement with the platform.
* **Music Upload for Artists**
  + **Description**: Artists can upload their songs and albums directly to the platform, allowing them to share their music with listeners.
  + **Inputs Required**: Audio files, metadata (track name, album, genre, etc.).
  + **Expected Outcome**: Artists can reach a wider audience by distributing their music through the platform.
* **Notifications for New Releases**
  + **Description**: Users receive alerts when their following artists release new music or albums.
  + **Inputs Required**: User preferences regarding notification settings.
  + **Expected Outcome**: Users are promptly informed about new content from their favorite artists.
* **Offline Listening**
  + **Description**: Users can download songs for offline playback, enabling them to listen without an internet connection.
  + **Inputs Required**: User action to download selected tracks.
  + **Expected Outcome**: Users have the flexibility to enjoy their music anywhere, regardless of connectivity.
* **User Account Management**
  + **Description**: Users can create and manage their accounts, including setting privacy preferences and subscription options.
  + **Inputs Required**: User personal information, preferences, and subscription choices.
  + **Expected Outcome**: Users have control over their account settings and privacy.
* **Content Moderation**
  + **Description**: Admins can review, approve, or remove user-uploaded content to ensure compliance with platform policies and copyright regulations.
  + **Inputs Required**: Reports of inappropriate content, user submissions for review.
  + **Expected Outcome**: The platform maintains a high standard of content quality and adherence to legal guidelines.

# Non-Functional Requirements 🡪 Non-functional user requirements

* **Performance Requirements**
  + **Description**: The system should be capable of supporting up to 10,000 concurrent users streaming music without significant latency.
  + **Response Time**: The average response time for any user action (searching, loading songs) should not exceed 2 seconds.
  + **Load Time**: Music tracks should load within 3 seconds on a standard broadband connection.
* **Security Requirements**
  + **Data Protection**: User data (including personal and payment information) must be encrypted using industry-standard encryption protocols (e.g., AES-256).
  + **Authentication**: Implement multi-factor authentication (MFA) for user accounts to enhance security.
  + **Access Control**: Users must have roles that define access levels (e.g., Guests, Logged-in Users, Artists, Admins) to ensure data privacy and security.
* **Usability Requirements**
  + **User Interface**: The application should have an intuitive and user-friendly interface, ensuring that users can navigate the app with minimal training.
  + **Accessibility**: The app must comply with WCAG (Web Content Accessibility Guidelines) standards to be usable by individuals with disabilities.
  + **Help Documentation**: Online help and user manuals must be available to assist users in navigating the application and utilizing its features.
* **Reliability and Availability Requirements**
  + **Uptime**: The system should achieve a minimum uptime of 99.9% to ensure users have consistent access to the platform.
  + **Fault Tolerance**: The application should be able to recover from failures without losing user data or session information.
* **Scalability Requirements**
  + **Horizontal Scaling**: The system should be able to scale horizontally to accommodate increasing numbers of users without degradation in performance.
  + **Content Delivery**: Utilize a content delivery network (CDN) to efficiently serve audio content globally and reduce latency.
* **Compliance Requirements**
  + **Copyright Compliance**: The platform must adhere to copyright laws and licensing agreements for all music streamed or uploaded.
  + **Data Privacy Regulations**: The system should comply with GDPR (General Data Protection Regulation) and CCPA (California Consumer Privacy Act) for user data management.
* **Documentation Requirements**
  + **User Manuals**: Comprehensive user manuals should be provided that detail all features and functionalities of the application.
  + **Online Help**: An online help section should include FAQs, troubleshooting guides, and tutorials on using the platform.
  + **Installation Guides**: If applicable, installation instructions should be provided for any software components that require installation.
* **Design Constraints**
  + **Technology Stack**: The application must be developed using specified technologies (e.g., React for frontend, Node.js for backend).
  + **Platform Compatibility**: The application should be compatible with major web browsers (Chrome, Firefox, Safari) and mobile operating systems (iOS, Android).
* **Priority of Non-Functional Requirements**
  + **Stability**: High priority to ensure the system operates reliably under different loads.
  + **Benefit**: High priority as usability and security directly affect user satisfaction and retention.
  + **Effort**: Medium priority; while important, they can be addressed in phases.
  + **Risk**: High priority; failure to meet security and compliance requirements could lead to legal repercussions.