SoundFusion AI

Towson University

SoundBytes

COSC 412 - 102

September 25, 2023

**Vision and Scope Details**

**Vision Statement**

A mobile app that uses AI to offer automatic, simple, and seamless music mixing. The app aims to fill the void left by the app called Pacemaker, integrating with various music platforms like Soundcloud and enabling users to share their transitions and mixes.

**Major Features / Functionality**

* AI-Powered Automatic Mixing: The app will provide automatic transitions and mixing between songs, offering a hassle-free and enriched musical experience.
* Simplified User Experience: The app will be designed with user-friendliness in mind, allowing even those with no DJ-ing experience to create smooth and professional-sounding mixes.
* Social Sharing Feature: Users can share their mixes and creations, building a community around shared musical tastes and discoveries.
* Subscription Model: The app will be free with a premium subscription option offering additional features and an ad-free experience.

**Competitive Analysis**

Competitors

* Spotify DJ
* Mixonset
* Djay Pro AI

Differentiating Factors

1. **Precision Transition Editor**: Unlike competitors, SoundFusion AI will feature a finely tuned transition editor, allowing users to adjust transitions meticulously, fix glitches, and save custom transitions using markers. This level of precision ensures users can create mixes that sound professional and seamless, resembling the work of a real DJ.
2. **Smart Transition Points**: The app will identify smart transition points between various buildups and phrases of the songs, enabling users to mark and leverage these points for smoother transitions, elevating the overall mixing experience.
3. **Integration with DJ Equipment**: A potential future feature will allow users to plug in a DJ controller, leveraging users' potential existing equipment to enhance the mixing experience further.
4. **Superior Automation and Simplicity**: Advanced AI technologies ensure more automatic and seamless transitions and mixes, coupled with an intuitive and user-friendly interface, allowing users of all experience levels to easily create and share mixes.
5. **Community Engagement and Music Integration**: A robust social sharing feature to foster a community of music lovers and creators, along with collaboration with various music platforms to offer a diverse music selection.

**Scope of Initial Release**

* Core Features:
  + AI-Powered Automatic Mixing
    - Pulse detection
    - BPM
  + Social sharing framework
  + User Interface and Experience: Intuitive and responsive design with streamlined onboarding, data protection, and accessible support.

**Opportunity**

SoundFusion AI seeks to bring a revolutionary and simplified music mixing experience to users, allowing them to explore and share music creatively. By leveraging advanced technologies and a user-centric approach, the app aims to be a leader in the music mixing app market, fostering a vibrant community of music enthusiasts.

**Tech Stack**

Front End

* React Native

or

* Flutter

**Back End**

* Elixir with Phoenix Framework

**Machine Learning**

* Python with Flask for implementing music analysis and recommendation algorithms.

**Database**

* MongoDB: For flexible and scalable data storage.

**API and Services**

* Music Platform APIs, OAuth 2.0, for music data, secure authorization.

**Hosting / Cloud**

* AWS or Google Cloud with Docker and Kubernetes for scalable and secure hosting.

**Assumptions and Dependencies**

* Assumptions: Continuous availability of music platform APIs and reliable Internet connectivity for users.
* Dependencies: Music platform APIs for music selection and user data, and AI technologies for music mixing and transitions.

**Target Audience/Market**

* Music enthusiasts, casual listeners, individuals seeking simplified music mixing experiences, and users interested in sharing and discovering music creatively.

**Availability**

SoundFusion AI will be available for download on the Apple App Store and Google Play. It will offer a free tier with an option for a premium subscription plan for additional features, higher quality downloads, and an ad-free experience.

**Motivation**

The withdrawal of Pacemaker from the App Store due to Spotify's policy change has left a gap in the market for intuitive and automated DJ apps. SoundFusion AI aims to fill this gap by offering more automatic, simple, and social music mixing experiences to users, integrating with various music platforms, and fostering a community of music lovers.

Group Details

- Group Name: SoundBytes

- Team Members:

- Seth Ericson - serics2@students.towson.edu

- Nate Moore - nmoore14@students.towson.edu

- Andrew Watson - awatson5@students.towson.edu

- Ivan Goncharuk - igonch1@students.towson.edu

- Grant Cosidine - gconsi1@students.towson.edu