

# MIXONSET APP: CONSUMER APPLICATION FOR AUTOMATIC DJ MIXING AND MUSIC DISCOVERY

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## ABSTRACT

In this demo, we present Mixonset, a consumer iOS app for automatic DJ mixing and music discovery. Mixonset lets users create DJ-style music mixes from their playlists by organizing them, adding recommendations, and creating transitions between each song. It also allows users to mix the highlight part of each song, filter playlists based on various music features, as well as controlling the amount of recommended songs added to the playlist.

## 1. INTRODUCTION

Automatic DJ applications are a popular research area of music information retrieval in recent years [1-5], while many mobile DJ applications are designed for users with certain amount of music knowledge and skill [6-8]. In this demo, we present Mixonset, an automatic DJ mixing and music discovery app created for music consumers with minimal music knowledge.

## 2. THE MIXONSET APP

The Mixonset app is built in iOS and is freely available in the iOS app store (<https://apps.apple.com/app/id1477282813>). It allows users to connect to their local music library or Spotify premium account.

### 2.1 Smart Mix

The main function of Mixonset is Smart Mix (Figure 1), which creates a DJ-style music mix from any user-selected playlists. It organizes the playlist based on the music features such as energy, tempo, key, and creates transitions between each song at selected time points. The mixing process is automatically completed in the background while the music is playing and user interaction is ongoing.

### 2.2 Play Highlight

Rather than playing full songs, Mixonset lets users play each song's highlight (Figure 2), a portion of the song determined by proprietary algorithm. This allows users to go through a playlist and discover music faster than when they are playing the songs in full.

### 2.3 Music Discovery

Mixonset lets users discover new songs by adding recommended songs to the middle of the playlist. Users have 5 options to control the amount of new songs to be discovered: 0, 20% (of the amount of songs in the playlist), 50%, 100%, and 300%.

### 2.4 Playlist Filtering

Mixonset lets users control the type of songs they want to listen to in a selected playlist through playlist filters. They can filter the playlists based on a set of music features, including energy (options include soft, mellow, chill, intense, and wild, shown in Figure 3), tempo (based on increments of 1 beat per minute), and whether songs are recently added to the playlist, are remixes of other songs, are downloaded, or have explicit lyrics.

## 3. EVALUATION

An anonymous survey has been carried out to evaluate the quality of the app. The participants were requested to report their user experience. In total 5 questions are asked, including 2 multiple-choice questions and 3 qualitative questions. A total of 27 responses are collected. Some surveyed users have incentive to unlock more features within the app, which are given out once the survey is completed, and irrespective of survey responses. The multiple-choice questions and responses are reported in Table 1 and 2.

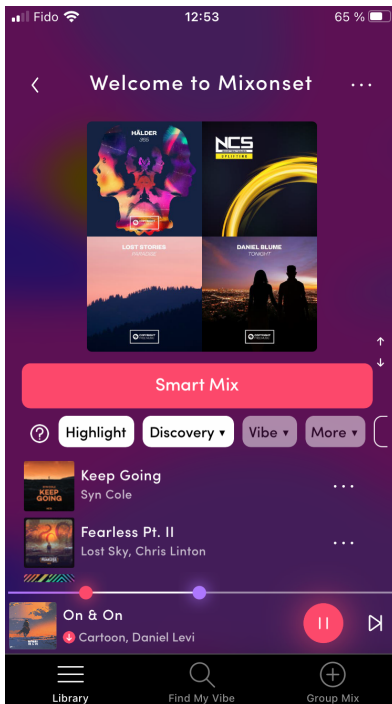
How often do you use Mixonset?	Response Rate
Several hours a day	33.33%
About one hour a day	14.81%
Several times a week	33.33%
About once a week	11.11%
Less than once a week	7.41%
Total	100.00%

Table 1. Mixonset survey question 1 and responses.

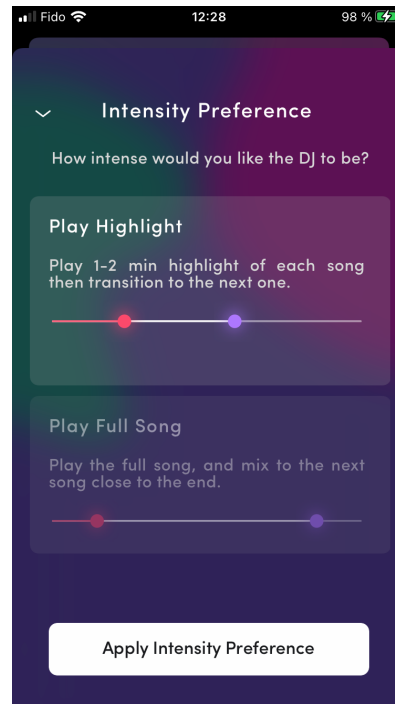
How would you feel if you could no longer use Mixonset?	Response Rate
Very disappointed	40.74%
Somewhat disappointed	37.04%
Not disappointed	22.22%
Total	100.00%

Table 2. Mixonset survey question 2 and responses.

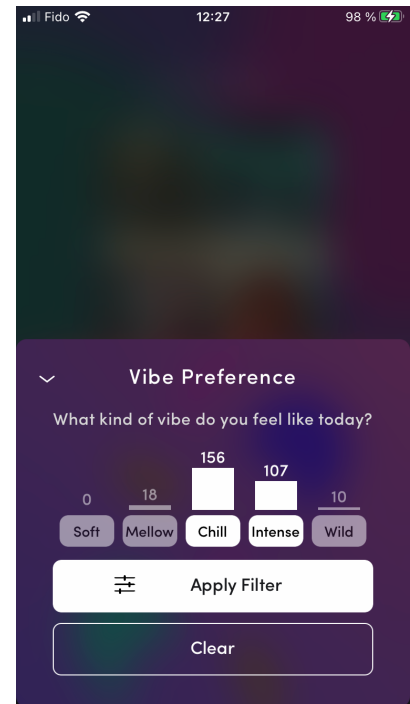




**Figure 1.** Screenshot of the Mixonset app playlist view. Users can use Smart Mix to mix a playlist automatically.



**Figure 2.** Screenshot of the intensity preference. Users can choose to play highlight or full song.



**Figure 3.** Screenshot of a playlist filter. Users can filter songs to play based on their energy (vibe). The number of songs in each filter is shown above

The results show that 92.6% of respondents use Mixonset at least once a week, and 77.8% would be at least somewhat disappointed if the app is no longer available.

#### 4. PROSPECT

Mixonset is currently a standalone iOS app built on different music sources, and it also can be integrated into music streaming services, video games, music/video production tools etc. We are looking for interested partners to work with to commercialize our technology.

#### 5. REFERENCES

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