



# **Intellibeat**

Praneeth Alla, Sachin Katyal, Cole Hanson

Advisor: Eugene Lew

## **Executive Summary**

At parties and social events, great music is essential. However, creating a playlist of songs beforehand is time consuming, maintaining a queue during the event is distracting and often stressful, and hiring a DJ is expensive and logistically cumbersome. Therefore, our goal is to make a seamless and convenient way for event hosts to curate and maintain a playlist of songs and recreate the experience of a DJ, allowing the hosts to focus on enjoying the event themselves. Our solution mimics the experience of a live DJ on your phone via an app that automatically curates a playlist of relevant songs, purposefully orders them, intelligently transitions between them, and can easily adapt to the dynamic environment of the event.

## Value Proposition

Intellibeat provides an effortless way for small party hosts on a budget to create captivating and seamless listening experiences that mimic the experience of a live DJ. The platform automatically gathers relevant songs, purposefully orders them, and intelligently blends them into a ready-to-play mix. By automating this process, event hosts can focus on enjoying the party and leave the music to us.



*Intellibeat Mobile App Design*

## Engineering Innovation

There are four main aspects to Intellibeat's engineering innovation. The first has to do with playlist generation using user preferences. These preferences include mood/genre, required songs or artists, tempo progression, etc. We then analyze publicly available data from popular music streaming services using social agreement algorithms to determine what songs should optimally be paired together in the new playlist.

Next, we purposefully order the songs based on similar musical characteristics. Based on the given mood of the playlist, we optimally distribute the energy of the songs and therefore the environment. The songs are then further ordered based on their genre, key, tempo, transience, etc. in order to allow for more seamless transitions throughout the event.

Then, we intelligently combine the songs together for a cohesive mix. This consists of trimming/expanding the beginning and end of songs based on downbeats, speechiness, and song sections (such as chorus, verses, bridges etc) and transitioning songs such that they crossfade into the next. With the ordering performed previously, this transition should sound natural. In situations where an unnatural sounding crossfade would occur, we use more “clever” forms of transitions such a delay out, reverb out, or even word-play.

Finally, we allow for live reordering and the inclusion/removal of specific songs, since we understand that music preferences change throughout the course of an event. Therefore, the user can provide feedback to Intellibeat if they decide that they need more energy or the listeners are latching on to a specific genre/style of music. The platform will take these preferences into account and automatically reorder the songs or source new music if needed.

### **Stakeholders**

*Small Event Hosts:* Small party hosts, being our primary customer segment, are one of our most significant stakeholders. When it comes to music, their primary concern is that their attendees can have a seamless listening experience without any unwanted abrupt changes in mood or energy. Additionally, we understand that the budget for small parties are typically low, and they may not be able to afford hiring a traditional DJ to fill their needs. Intellibeat is meant to take care of the music portion of the host’s responsibilities so that he/she does not have to deal with the hassle of generating and maintaining a queue of songs to play.

*Listeners/attendees:* Party attendees are interested in enjoying the music being played at the event so they are able to enjoy the party without any musical interruptions (pause in music, awkward transitions, etc.). Additionally, attendees can provide feedback to Intellibeat based on whether they like the current “vibe” being played or want to switch to a different mood. Intellibeat will automatically adjust the playlist to match these live user preferences.

*Music labels and streaming services:* In order to monetize the platform, we will have to obtain

licenses to the music through partnerships with music labels or music streaming services, such as Soundcloud, Spotify, Tidal, and/or Apple Music.

### Market Opportunity and Customer Segments

Our primary target customer segment is young adult party hosts. This would consist of college students holding a club event, a group of friends throwing a birthday party, or any other similar celebrations. This is our ideal beachhead market for multiple reasons – primarily due to the fact that this demographic is the most likely to host and attend parties or similar events regularly, and generally doesn't have the money or ability to hire a professional DJ for these events. Thus, our product provides a great fit for this market. We also have the advantage of being a part of this target market ourselves. Thus, we have a deeper understanding of this demographic's needs, allowing us to create a set of features that will create the most initial impact.

We know that there is a high demand for a service like IntelliBeat among members of our initial target market (young adults hosting house parties). According to a survey of over 50 college students that we conducted, > 70% of students attend house parties more frequently than bars and clubs and > 60% of respondents dislike being responsible for curating and maintaining music at a party.



Survey Results

Beyond this initial market, we are looking to eventually expand to dive bars and pub owners. For smaller bars and pubs, IntelliBeat can be used as an alternative to professional DJs on slower nights or on nights where the scheduled DJ cancels last minute – this will save the owners the money they would have otherwise spent on hiring a DJ, and help mitigate the hassle and

logistics that come with coordinating and preparing for a live performance. IntelliBeat can even be utilized by businesses for corporate events, gyms for workout class soundtracks, or retail stores for background music.

### **Estimation of Size and Growth of Market Segment**

We estimate that we have an Initial Target Market Segment (TMS) of approximately 10 million people. This is roughly the amount of people in the United States that are aged 18-30, use music streaming services, and regularly attend parties or similar events.

This market segment is set to continue growing over the next 5 years. Since the onset of COVID-19, the market of US club and bar revenue [decreased by over 40%](#). Despite now being in a post-pandemic era, the market size is still lower than it was 8 years ago. Coupled with the [decreasing sales in DJ equipment](#) over the last decade, this indicates that the market of house parties is growing and transitioning to become the new norm. In addition, according to a survey of college students we conducted (90% of whom were over the age of 21), over 70% attend house parties more often than bars or clubs. As the popularity of house parties increases, we hypothesize that the demand for an app that simplifies the music curation and maintenance process will also increase.

### **Competition**

Currently, music for small events is typically managed through Spotify or Apple Music, through which users create playlists of songs or use pre-made playlists. Both platforms offer features designed towards creating these playlists and recommending songs or artists. However, they do not provide any purposeful ordering of the songs to match the energy/preferences of the attendees. The alternative is to have someone queuing and managing the playlist in real time, which takes away from their experience at the event. While streaming platforms like Spotify and Apple Music are great for individual listening and playlist curation, they lack the features necessary for social listening and live feedback.

There are also a few existing tools that create mixes and mashups of songs, such as Pacemaker,

RaveDJ, and Mixonset. Mixonset is a streaming platform that provides smooth transitions between songs. Pacemaker creates a preliminary mix after inputting a playlist, but users still have to manually edit the songs (start/end time, volume, etc.) in order to create seamless transitions. Rave requires the user to manually input all of the songs for the mix beforehand, and does not allow for any changes after the mix is created. All of these platforms do not include any ability to automatically sort songs or quickly adapt the playlist content based on live feedback.

By automating the music of an event while still allowing hosts to quickly update the mix on the fly based on live feedback, IntelliBeat provides a unique solution to managing event soundtracks that is not currently offered by any other players in the market.

### **Cost**

The main costs currently associated with IntelliBeat are with servers and development costs – this includes the cost of the database and storage for the app, as well as the server’s hosting costs. Before our full launch, we will also need to secure funding in order to obtain music rights, which may come in the form of a partnership with an existing streaming service.

### **Revenue Model**

In order to monetize the platform, it is imperative to obtain the music rights for the tracks that are played using Intellibeat. Since establishing these relationships with music labels would be very difficult and expensive, our strategy for obtaining these music rights is pursuing a partnership with an existing streaming service, such as Soundcloud, Tidal, Spotify, or Apple Music.

Once these streaming rights have been acquired, our revenue model will consist of a free trial followed by a paid subscription. In the free trial period, users have access to all functionality and will be able to create 2 full length mixes (~4 hours total). After 2 mixes have been created, the app will require a monthly subscription for continued use. In addition, IntelliBeat will accept sponsored vibes: artists and record companies can sponsor their material to show as a top result during the “vibe selection” process.