BEATOVEN.AI: AI-POWERED MUSIC CREATION

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ABSTRACT

Independent content creation is becoming highly present in our daily lives, from educational videos to social media influencers who reach celebrity status. With the increasing importance of social media and, consequently, content creation, music is taking a vital role in accompanying the created media, being able to capture the consumer's attention or set a mood.

However, new challenges arise regarding obtaining music to accompany the created media. While royalty-free production music allows for its usage without significant issues, navigating extensive collections for a music piece suitable to the content being made can be tiresome.

In this late-breaking demo, we present Beatoven.ai, an online tool for creating royalty-free music according to high-level parameters which do not require expert music creation knowledge. The user control enables the generated music piece to fit exactly what content creators have in mind and the content's requirements.

1. INTRODUCTION

Production music, also known as stock or library music, are the recorded music pieces specially composed for use in films, videos, radio and other types of media. Commonly, these compositions are not made for specific movies or media content; they are somewhat generic and able to fit a variety of content [1]. These libraries provide users with a non-exclusive license to use these music tracks as the background music of their content (also known as sync music licensing). This is a cheaper and faster alternative to hiring a producer to create a music track.

Linktree's Creator Report [1] shows that there are almost 50M content creators with more than 10k followers or more, uploading almost 30,000 hours of video content every hour on YouTube alone [2]. Most of this content needs uses some form of background music. The frequent content creators (individuals, marketing agencies, and video editors) use production music as a fast and cheaper way of music acquisition and licensing. Looking at the number of subscribers of some of the largest stock music libraries and the number of creators who are earning from their content, there are approximately 12 million creators who are potentially paying for their background music acquisition. Hence, this is a massive problem for many content creators, and they keep looking for different tools and libraries that can make their job easier.

Production music solves some of the above problems, but these libraries also introduce a new set of problems, that of searching and editing. A stock music library typically consists of thousands of tracks(in the range of 10-50k), and searching through this to find a track that goes well with the target content takes a long time (from a few hours to a couple of days). Even if the creators find the right track, they still need to edit the track to precisely match it to the duration of the content. This requires creators to find another similar track to add to the first one (or loop the same track) or trim the first one depending on the duration mismatch between the tracks and the content. With the current boom in the market for independent content creation derived from social media platforms and easy access to publishing services, content creators need to publish high-quality content at a fast pace to stay relevant for their audiences, as well as the platform algorithms. That makes time a critical factor in the content creation pipeline.

In this demo, we showcase a better alternative to the current production music libraries called Beatoven.ai, which provides an easy-to-use alternative where the creators can create original soundtracks per their content's requirements within a few minutes.

2. BEATOVEN.AI

Beatoven.ai abstracts the music generation process by hiding all the details of sample selection, arrangement and mixing behind an intuitive User Interface (UI). This way, the user can focus solely on high-level parameters such as tempo, mood and genre.

The user journey in Beatoven.ai starts with the workspace, where users can choose to edit one of the projects they previously worked on or to start a new composition. If the option to select a new track is chosen, the user is asked for a title, a mood, a genre, the tempo (slow, medium or fast), and the duration desired for the track to be composed. The user is then presented with a first iteration of the composed track within the composition UI, presented in Figure 1, where all the main composition controls are accessed.

[1] https://linktr.ee/creator-report

[2] https://www.semrush.com/blog/youtube-stats/

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Late-Breaking / Demo Session Extended Abstract, ISMIR 2022 Conference

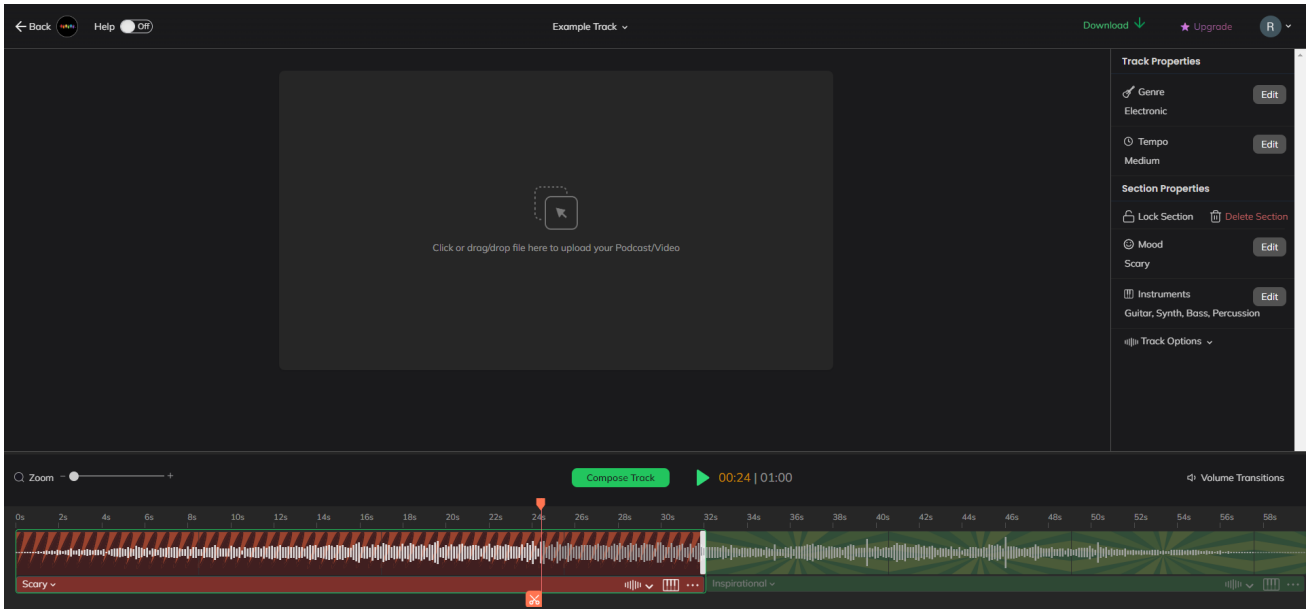


Figure 1. Composition user interface provided to Beatoven.ai users.

Within the composition UI, there are three main parts: the timeline, the uploaded media frame and the section/track properties panel. The timeline is located at the bottom of the screen and shows the sequence of moods throughout the composition. Within the timeline, the user can create new sections of the composition at the desired time. We define *sections* as segments of the composition with a specific mood or emotion. These can be split, extended or deleted. The user can also automate the volume throughout the composition by pressing the volume transition button and creating volume automation points throughout the timeline. After creating sections within the timeline or modifying the desired automation, the user can request the system to generate the composition and, consequently, use the transport controls provided: play and pause. For each section, the system presents four options that the user can choose from in case they are unsatisfied with the proposed one. If none of the options is satisfactory, the user can lock the sections they are pleased with and request the system to re-compose the music piece. This way, only the unlocked sections are re-composed. If the user wants to mute some instruments within a section, the system also offers that possibility by pressing the instrument selection button.

The uploaded media frame occupies the centre of the website and allows users to upload their content, e.g. a video or a podcast that they want music for. The playback of the media is synced with the generated music piece. Consequently, the users can make creative decisions, such as creating a new section or automating the volume based on the media they upload. Lastly, the track/section properties panel, displayed on the right of the screen, allows for changing the tempo and genre of the composition or modifying lower-level details such as the mood or instruments of a section.

When a user is satisfied with the entire composition, they can download the whole track, and the stems (a separate render of each of the instruments) and a license is sent to their email. The license permits the non-exclusive use of the composed music for the user's content while keeping the original copyright with Beatoven.ai, enabling an easy solution to copyright disputes on platforms such as YouTube.

3. CONCLUSIONS

In this Late Breaking Demo, we present Beatoven.ai: an AI-powered music creation platform that can enable content creators to generate royalty-free music specifically tailored to their content without requiring music composition knowledge. To help content creators in their search for music to accompany their videos, we propose a system capable of creating high-quality music through intuitive parameters.

We are currently adding new features to the composition process. Obtaining information from the video using Computer Vision techniques allows to automatically create sections and infer the corresponding moods for a more streamlined composition process. Using a pre-composed music piece as a reference for the automatic composition can also help users who feel overwhelmed by the controls provided by the tool. Finally, a strong effort is being made for the system to be able to create music from non-western music genres.

4. REFERENCES

[1] E. Huovinen and A.-K. Kaila, "Topical interpretations of production music," in *Proceedings of the 12th International Conference on Music Perception and Cognition*, 2012, pp. 465–472.