



# Discord Music Bot- A Medical Therapy for Patients

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**Abstract:** This paper presents the development of a Discord music bot that allows users to stream ad-free music on their Discord servers. The bot has been implemented using the Discord API and YouTube API to fetch and play music requested by the users. The functionality of a Discord music bot can vary depending on its features and capabilities. Some bots may allow users to stream music from popular platforms such as YouTube, Spotify, or SoundCloud, while others may provide a limited selection of songs from their own music library. Some bots may also offer advanced features such as DJ controls, song requests, and song voting systems. This music bot serves the patients as a therapy with health conditions like cardiac conditions, depression, autism, substance abuse and Alzheimer's disease.

**Keywords:** Discord, music bot, streaming, ad-free, Discord API, YouTube API.

## I. INTRODUCTION

Nowadays, there are numerous music applications available in the market, including Apple Music, Spotify, etc. These apps require in-app purchases with different pricing packages for ad-free listening, on-demand playback, separate apps for kids, etc. In this context, we propose to develop a Discord server bot that provides access to premium membership for free. This bot will work on PCs, mobile devices, and gaming consoles. With a Spotify developer account, we can build this bot and access our playlist for playing songs.

Most people have heard of Spotify, even without knowing the service thoroughly. It is a platform that allows you to access different music tracks, modern and from past eras, from any device, such as PCs, smartphones, Smart TVs, game consoles, and latest-generation cars. The basic version is free, thanks to the earnings that Spotify receives through advertising. Nevertheless, it is possible to subscribe to a monthly subscription of about \$10. This subscription allows user to take advantage of additional features. The proposed system have unique features as:

1. **Improved user experience:** Users can enjoy their favorite music without any

interruptions from ads, leading to a better user experience.

2. **Increased engagement:** Users are more likely to engage with the Discord server if they have access to ad-free music, leading to higher user engagement.
3. **Improved retention:** Users are more likely to continue using Discord if they have access to unique features such as ad-free music, leading to improved user retention.
4. **Attract new users:** The ad-free music bot feature may attract new users to the Discord server who are looking for a unique feature that other platforms might not offer.
5. **Access to a wide variety of music:** With a music bot, users can listen to virtually any type of music they want, from their favorite tracks to the latest releases.
6. **High-quality sound:** Music bots often use high-quality audio files, which means users can enjoy their music without any distortion or background noise.

## II. RELATED WORK

[16].Silverman, M. J. (2017). Music therapy in the treatment of substance use disorders. In *The Oxford Handbook of Music and Addiction* (pp. 303-315). Oxford University Press.

Music therapy is a therapeutic approach that utilises music interventions to address physical, emotional, cognitive, and social needs. In the context of substance use disorders, music therapy may be used as a complementary intervention alongside traditional treatment methods. such as enhancing motivation for change, and withdrawal symptoms, improving emotional regulation and self-expression, fostering relaxation, promoting group cohesion, and increasing engagement in the therapeutic process.

[17]. Mössler, K., Chen, X., Heldal, T. O., & Gold, C. (2011). Music therapy for people with schizophrenia and schizophrenia-like disorders. *Cochrane Database of Systematic Reviews*, 12.

The use of music therapy for people with schizophrenia and disorders similar to schizophrenia is likely the subject of the article. Systematic reviews are in-depth investigations with the goal of compiling and evaluating the body of research on a particular subject, Potential advantages of music therapy in the context of schizophrenia.

### III. METHODOLOGY

The development of the Discord music bot will involve several steps. Firstly, we will set up a development environment and create a bot account on Discord. Next, [2] the user will implement the necessary features to interact with Discord servers and users. [3] then integrate the YouTube API to fetch and play music requested by the users. Finally, test the bot thoroughly to ensure that it functions properly. The architecture of the application is illustrated by Figure 1.

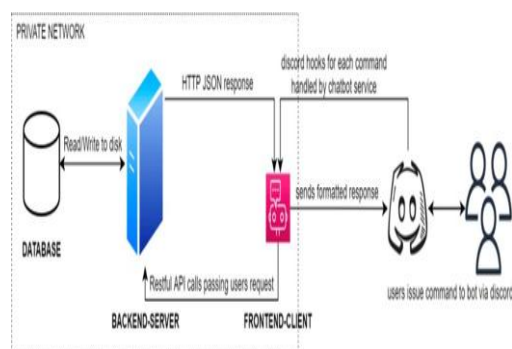


Figure 1: Proposed System Architecture

The objectives of proposed work are:

- Provide users with a bot that can play ad-free music in Discord.
- Offer a seamless and reliable experience for users to enjoy their favorite music.
- Enhance user engagement on Discord by providing an additional feature.
- Increase user retention on Discord by providing a unique feature that other platforms might not offer.

Music bots generally rely on APIs (Application Programming Interfaces) [1] provided by music streaming services as in Figure 2, such as YouTube or Spotify, to access and stream music content. These APIs may use a variety of algorithms to

retrieve and play the requested songs, such as data compression algorithms, audio codecs, and streaming protocols. Additionally, some music bots may use machine learning algorithms to improve their song recommendations or to generate playlist suggestions based on user preferences. The Enhanced features of application are:

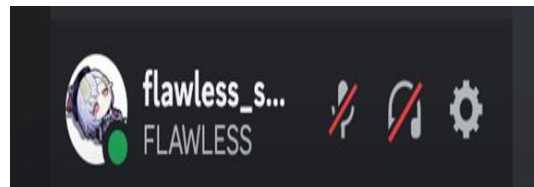


Figure 2: Music Bot API

**Ease of use:** Discord music bots are simple to set up and use. Users can quickly start playing music with just a few commands, as shown Figure 3 making it easy to enjoy their favorite tunes while chatting with friends.

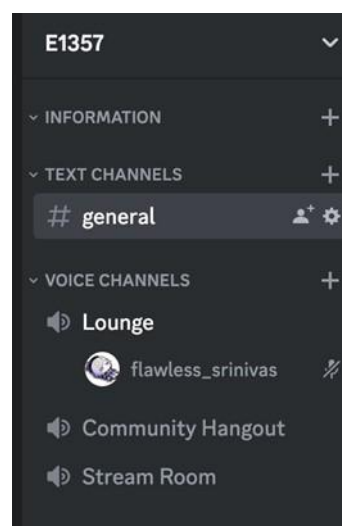


Figure 3: Commands of Music Bot

**Customizable settings:** Music bots allow users to customize [15] settings such as volume, bass, and treble to create the perfect listening experience.

**Integration with other bots:** Discord music bots can be integrated with other bots, such as chatbots, gaming bots, and more, to provide a seamless and interactive experience for users.

**Supports playlists:** With a music bot, users can create playlists of their favorite songs, making it easy to enjoy their music without constantly searching for new tracks.

**Continuous playback:** Music bots can play music continuously, meaning users can enjoy uninterrupted music for as long as they want.

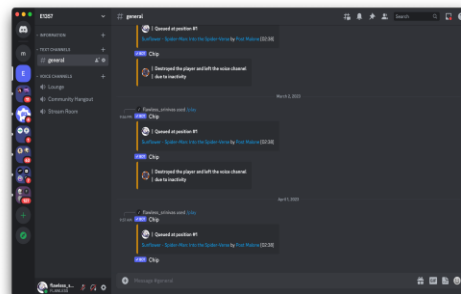
**Group listening:** as shown in Figure 4 discord music bots allow multiple users to listen to music together, [11] making it a great way to connect with friends and discover new music.

#### IV RESULTS AND DISCUSSIONS

The design challenges of Proposed System are:

- **Legal issues:** There may be legal issues related to streaming copyrighted music, [15] which could lead to potential legal challenges for the bot owner.
- **Technical challenges:** The bot must be designed and programmed to play music seamlessly, which may require technical expertise.
- **Cost:** Hosting a bot that can stream music ad-free may require significant resources, which may incur additional costs.
- **Maintenance:** The bot must be regularly maintained to ensure that it is functioning correctly and that any technical issues are resolved promptly.
- **API limitations:** [Discord has a limit on the amount of data that can be sent per message, which can make it difficult to stream high-quality music through the platform.
- **Hosting:** Running a music bot requires a server to host it,[6] and this can be costly and time-consuming to set up and maintain.
- **Copyright issues:** Streaming copyrighted music without permission is illegal,[11] so music bots need to be careful to only play the music that they have permission to use.
- **User experience:** It can be not easy to create a user-friendly experience for users who may have different preferences when it comes to music playback controls.
- **Performance issues:** Depending on the number of users and the complexity of the music bot's code, [9]it can be challenging to ensure that the bot is performing optimally at all times.

- **Compatibility:** Music bots may not be compatible with all platforms, devices, and operating systems, which can limit their usefulness to certain users.[11]  
Configuration: Setting up a music bot can



require a lot of configuration and customization to get it working just how you want it to.

#### V CONCLUSIONS

The proposed Discord music bot aims to provide access to premium membership for free and will work on PCs, mobile devices, and gaming consoles. With the help of APIs provided by music streaming services, such as Spotify or YouTube, the bot will access and stream music content. Additionally, machine learning algorithms may be used to improve song recommendations or generate playlist suggestions based on user preferences. Although

1. "Musicking in Discord: An Exploratory Study on Virtual Music Communities" by Elizabeth M. Coberly, Daniel Shanahan, and Bryan Pardo, explores the use of music in virtual communities, specifically within the context of Discord servers. there is not much academic literature on Discord music bots, several studies have explored the use of

music in virtual communities and the impact of music bots on social interaction and group cohesion.

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- J. A. van der Spek, examines the use of music in multiplayer online gaming environments, including those that utilize Discord music bots.
3. "Exploring Music Engagement on Discord: Preliminary Findings" by Beryl Chen, Cindy Hsin- Liu Kao, and Elizabeth M. Gerber, presents preliminary findings on music engagement in Discord communities, with a focus on the use of music bots.

4. "Designing and Evaluating a Music Recommender Bot for Chat Platforms" by Santiago M. Mola-Velasco and Pablo Martínez-Rodríguez, discusses the design and evaluation of a music recommender bot for chat platforms, which may be relevant for those interested in developing a Discord music bot.
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