Music Streaming Decentralized Application JJAX

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I. Introduction

The advent of music streaming platforms has completely transformed the way we purchase and consume music, but it has also given rise to several issues. While it is extremely convenient for music enthusiasts to use these platforms and enjoy music with just a click, high fees and restricted content access prevent some users from availing the service. On the other hand, for music creators, especially for those who are not mainstream, these platforms provide an opportunity to showcase their work to a wider audience. However, uploading music to traditional streaming apps can be a costly and challenging task. Music creators need to use distributing services to upload their music and face issues such as high fees, low income, and copyright concerns.

Our decentralized streaming music platform JJAX attempts to solve these problems with blockchain technology. Our platform is built on Ethereum, utilizing smart contracts, tokenization, and NFTs to provide a more open and transparent environment for all users.

For creators, JJAX offers a fairer and more transparent revenue sharing system. We provide free music file uploading services, enabling original creators to upload their music to our platform, set their own prices, and receive the majority of their earnings in cryptocurrency when other users purchase their music, all without worrying about piracy. Secondary creators can purchase music at a lower price on our platform, remix it, and then upload their creations for listening or resale, with original creators receiving a share of the earnings. Users can easily browse and search for new music on our platform and purchase their favorite tracks at a lower price.

This report will first discuss the background and motivation behind creating JJAX. Then, we'll describe the overall system architecture and user interface design. We'll also delve into the technical details of how JJAX operates, including the use of smart contracts, tokenization, and NFTs. We'll evaluate the effectiveness of JJAX and discuss future directions for improvement. Finally, we'll summarize the development process and the challenges we faced along the way.

In summary, JJAX represents an innovative solution to the problems plaguing traditional music streaming platforms, and we believe it has the potential to disrupt the industry and create a fairer and more sustainable music consumption model.

II. Background

With the growth of the internet and the popularity of music, composers and musicians are beginning to have more and more markets to distribute their music, but at the same time the income generated by their works is becoming less and less due to the excessive number of third-party music markets on the internet, and can also be affected by copyright issues for the music.

Listeners dominate the market as there are several different platforms for music to choose from. However, most of these music platforms are centralised, so there are multiple formalities between creator and listener transactions, and significant fees are charged, i.e. the price of the creator's own work plus intermediate fees is the actual price paid by the consumer. In particular, the monopoly of some music platforms on well-known music works has led to high prices, with most of the benefits of this monopoly going to the intermediary platforms, while the profits for creators remain limited, giving rise to a lot of pirated music resources, which further undermines the interests of creators. Moreover, these central organisations collect data on users' behaviour and analyse their habits, which in turn violates consumers' privacy to a certain extent.

As a result, decentralised trading software has emerged. For the music market, decentralised applications allow for direct trading between music creators and users, making it easier for new creators to promote their work, and for users to sell their music at a lower price due to fewer fees. In addition, the decentralised music platform ensures that the music purchased by users is copyrighted, and for fans of specific creators or music lovers, it ensures that the music they purchase is authoritative. Based on current blockchain technology and smart contracts, it is possible to implement this decentralised music platform where the blockchain and smart contracts act as a third-party organisation where users can directly purchase copyrighted music.

The best example of the current development in Dapp is Audius, a platform for decentralised music sharing and streaming protocols, a format that dramatically increases the ability of creators to express themselves freely and to communicate directly with their fans, while ensuring that music creators receive the majority of the revenue from the benefits created by their work. 90% of the platform's revenue will go directly to the artist. Audius is designed to give creators more control over their music, as opposed to other third-party platforms, where only 12% of revenue goes to the artist. By uploading their music to Audius, creators can leave a permanent record of their work, which will be protected by a decentralised network of nodes.

A key difference between Audius and other streaming music platforms such as Spotify is that it operates in a decentralised way using blockchain technology, such as NFT gating, which allows artists to distribute exclusive content to NFT holders.

can ”gate” their content here, so only token holders of the corresponding collection can access it. Audius effectively solves the copyright challenges faced by creators in the music industry, including music rights, royalties and ownership, giving every user the freedom to publish or listen to music, while ensuring the rights of both creators and consumers. It also ensures the rights of both creators and consumers.

The profitability of Dapps is also limited due to the decentralised model of Dapps which simplifies the transaction model and eliminates many fees. Many Dapps will be profitable on a drawback basis, such as simulated stock market or gambling Dapps where users are required to buy or hold certain assets or tokens to participate. When the price of these assets or tokens changes, the Dapp re-calculates the value of the user's assets and pays the holder a corresponding bonus, from which the Dapp can take a percentage of the bonus as a source of profit. Or it can take a direct commission when users perform trading activities and top-ups. Alternatively, the most straightforward way to monetise an app is to include advertising in the app and receive a fee for doing so. This model is also applicable to music Dapps.

In the music Dapp, users can buy individual tracks or entire albums to access music services and the Dapp can earn revenue from the sale of the music, for example Audius earns a 10% fee on each sale. In addition to this Dapp can also combine music related products and services with its music services, for example selling music tickets, selling album or songwriter related clothing and peripherals etc.

III. Design documentation

IV. Project Execution

V. Conclusion

VI. Conclusion

References

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