

# A music creation model based on blockchain technology

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## Abstract

**With the rapid development of blockchain technology, its application in the field of music creation is gradually receiving attention. This article delves into the blockchain based music creation model, including its technical principles, application advantages, challenges faced, and future development trends.**

## Keywords

**Blockchain; Music creation; Copyright protection; Decentralization; Smart contracts.**

## 1. Introduction

### 1.1. Overview of Blockchain Technology

Blockchain technology is a decentralized, distributed, and tamper proof data storage and transmission technology that achieves secure, traceable, and reliable transaction records and information sharing through encryption algorithms and consensus mechanisms. It utilizes a chain data structure to connect transaction records in chronological order, forming an immutable chain of data blocks. Each data block contains the hash value of the previous block and its own transaction information, forming a validation structure similar to a Merkle tree to ensure the integrity and credibility of the data. Blockchain technology originated from Bitcoin and has gradually expanded to fields such as finance, supply chain management, and the Internet of Things with its continuous development and application. Its characteristics and advantages include decentralization, traceability, anonymity, security, and transparency.

### 1.2. The application background of blockchain technology in the field of music creation

Blockchain technology has brought tremendous changes to the music industry, particularly demonstrating significant advantages in copyright protection, transparent distribution, and community-based creation. Firstly, the copyright of music works can be effectively protected to prevent piracy and unauthorized reproduction. Secondly, blockchain can achieve transparent distribution, making the circulation of music works traceable, cracking down on piracy, and increasing the income of musicians. In addition, community-based creation allows fans to participate in the creative process and share the benefits of the work. Direct payment and revenue sharing also bring more revenue opportunities for artists. Most importantly, blockchain can provide technical support for the authentication and tracing of music works, ensuring the authenticity and scarcity of artworks. Finally, cross platform cooperation and sharing, as well as the personal brand building of artists, are also important applications of blockchain technology in the music field.

## 2. The combination of blockchain technology principles and music creation

### 2.1. The Technical Implementation of Blockchain in Music Creation

The technological implementation of blockchain in music creation is mainly based on its decentralized, distributed, and immutable characteristics. Firstly, music works are transformed

into unique digital fingerprints on the blockchain, which are typically their hash values used for authentication and verification of the authenticity and originality of the works. Secondly, smart contracts are used to automate copyright transactions and revenue distribution, allowing musicians to interact directly with consumers and ensuring that all parties receive the expected benefits. In addition, blockchain can also achieve transparent transaction records, making every transaction traceable, enhancing the transparency and credibility of the market. Finally, through a decentralized collaborative model, blockchain technology has lowered the threshold for music creation, allowing more people to participate in the creative process and benefit from it. These technological implementations have brought unprecedented opportunities and possibilities for music creation.

## **2.2. The Transformation of Music Creation Process**

Blockchain technology is driving a profound transformation in the music creation process. The traditional music creation process typically involves complex copyright management and intermediary agencies, while blockchain technology simplifies this process through its decentralized nature. Musicians can directly upload their works to the blockchain platform to obtain a unique digital fingerprint, ensuring the copyright and originality of the works. In addition, the application of smart contracts enables musicians to independently manage copyright and automate revenue distribution without the need for third-party organizations. This greatly improves efficiency, reduces costs, and provides musicians with more creative freedom. Meanwhile, blockchain technology also promotes interaction between musicians and fans, allowing fans to directly support their favorite musicians and participate in the creative process. This new creative model not only allows musicians to receive more economic returns, but also enables them to interact more closely with fans, enhancing the influence and reputation of their works. In short, blockchain technology is leading the transformation of the music creation process, bringing infinite innovation and development potential to the music industry.

## **3. The advantages and value of blockchain based music creation model**

The music creation model based on blockchain has many advantages and values. Firstly, blockchain technology provides a powerful copyright protection mechanism for musicians. Through digital fingerprints and smart contracts, music works can be authenticated on the blockchain, and any infringement can be quickly tracked and cracked down, effectively protecting the legitimate rights and interests of musicians.

Secondly, this model promotes transparent trading of music. Blockchain technology enables every transaction to be publicly recorded, enhancing market transparency. Consumers can purchase music works with more confidence, and musicians can also have a more intuitive understanding of the market performance of the works.

In addition, the blockchain based music creation model reduces the threshold for cooperation. Through smart contracts, musicians can autonomously manage copyright and automate revenue distribution, reducing the cost and complexity of collaborating or licensing works with others. This helps to stimulate more innovation and cooperation, promote the diversity and prosperous development of music.

Finally, this mode provides musicians with a new channel for interacting with fans. Fans can directly support their favorite musicians through the blockchain platform and participate in the creative process. This close interactive relationship not only enhances the loyalty of fans, but also provides musicians with more creative inspiration and motivation.

Therefore, the blockchain based music creation model has brought enormous value and potential to the music industry through powerful copyright protection, transparent transactions, reduced cooperation barriers, and enhanced fan interaction. It helps to drive

innovation and development in music, and provides more opportunities and choices for musicians. With the continuous progress of technology and the development and maturity of the market, this model is expected to be more widely used and promoted in the future.

#### **4. Practical case analysis of blockchain music creation**

In recent years, more and more musicians and projects have begun to explore the application of blockchain technology in music creation. Among them, Ethereum, Wave Field Music, and Ujo platform are typical cases.

Ethereum provides a secure and transparent trading platform for musicians and fans by creating a decentralized digital music market. On this platform, musicians can upload their works and obtain digital fingerprints to confirm copyright ownership. Fans can directly purchase works to ensure they receive genuine authorized copies. Ethereum's smart contracts also automate revenue distribution and reduce intermediary costs.

Wave field music is a decentralized music distribution platform built using wave field blockchain technology. Through this platform, musicians can upload and distribute their works, gaining wider dissemination and recognition. The decentralized nature of wave field music also provides musicians with more flexible copyright management and revenue distribution mechanisms, allowing them to better control their own works.

The Ujo platform focuses on protecting the rights of musicians and the uniqueness of their works. Through blockchain technology, Ujo provides unique digital fingerprints for each song and ensures that musicians receive reasonable profits throughout the entire copyright cycle. At the same time, Ujo also provides transparent copyright management and transparent payment mechanisms to ensure that musicians can receive timely income.

These cases all demonstrate the potential and value of blockchain technology in music creation. Through the characteristics of decentralization, transparency, and security, blockchain technology provides musicians with stronger copyright protection, wider dissemination channels, and more flexible revenue distribution mechanisms. This helps to stimulate innovation and development in music, and brings broader prospects to the music industry.

#### **5. Challenges and Countermeasures Analysis**

Although blockchain music creation has great potential and advantages, it still faces some challenges and problems.

Firstly, the maturity and scalability of technology are key challenges. Blockchain technology is still in the process of continuous development and improvement, and needs to address issues such as performance, security, and interoperability. In order to meet the needs of large-scale applications, blockchain technology needs to have higher scalability and stronger security.

Secondly, policies and regulations are also a major challenge. Currently, many countries and regions have incomplete music copyright regulations, and the blockchain music creation model may face legal uncertainty. Therefore, the music industry needs to cooperate with governments, regulatory agencies, and other organizations to promote the formulation and improvement of relevant policies and regulations to support the development of blockchain music.

In addition, social cognition and acceptance are also major challenges. Although the concept of blockchain technology is gradually becoming popular, there are still many people who have doubts and misunderstandings about the blockchain music creation model. Therefore, it is necessary to enhance the public's awareness and understanding of blockchain music through education, publicity, and other means, laying a foundation for its popularization and promotion. To address these challenges, the following measures can be taken. Firstly, continuous technological innovation: Encourage technological research and innovation to address the

performance, security, and scalability issues of blockchain technology, in order to meet the needs of large-scale music creation applications. Secondly, policy cooperation and formulation: Strengthen communication and cooperation with the government and regulatory agencies, promote the formulation and improvement of relevant policies and regulations, and provide legal protection for blockchain music creation. Finally, social popularization and promotion: Strengthen the popularization and education of blockchain music creation models, and improve social awareness and acceptance. At the same time, the potential and advantages of blockchain music can be demonstrated through demonstration projects and successful cases. In summary, in the face of challenges and countermeasures, the music industry needs to maintain an open mindset and innovative consciousness, continuously explore and promote the development of blockchain music.

## 6. Future development trends and prospects

With the continuous development and improvement of blockchain technology, blockchain music creation is expected to achieve important development and breakthroughs in the future. Firstly, a stronger copyright protection mechanism will be implemented. Through blockchain technology, the digital fingerprints and smart contracts of music works will be further improved, ensuring that musicians can better protect their rights. This will help reduce piracy and infringement, and improve the creative enthusiasm and income level of musicians.

Secondly, the interaction between musicians and fans will be closer. The blockchain music platform will provide more diverse ways of interaction, such as fan voting, co creation, etc., allowing fans to participate more deeply in the music creation process. This will enhance the loyalty and sense of participation of fans, while providing more creativity and inspiration for musicians.

In addition, the decentralized cooperation model will further develop. Blockchain technology will simplify the collaboration process between musicians, lower the threshold for cooperation, and promote more innovation and diversity. This helps to discover and cultivate more music talents, promoting the prosperity and development of music.

Finally, blockchain music will integrate with emerging fields such as the metaverse. The metaverse, as a virtual reality space, provides a broader stage for the dissemination and display of blockchain music. Musicians can hold virtual concerts, release digital artworks, and engage in deeper interactions with fans in the metaverse. This integration will bring more possibilities to blockchain music, expand its commercial value and artistic charm.

In summary, the blockchain based music creation model has enormous potential and value. In the future, with the progress of technology and the maturity of the market, this model is expected to achieve significant development and innovation. From stronger copyright protection to closer interaction, decentralized cooperation, and integration with emerging fields such as the metaverse, blockchain music creation will bring unprecedented changes and opportunities to the music industry.

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## References

- [1] Yannick Vuylsteke, Sven Krieter, Axel Bruns, Blockchain's Role in the Evolution of the Music Industry [J], The International Journal of Virtual and Personal Libraries, 2018.632-40

- [2] Kadeen Finnamore, Blockchain and the Music Industry: A Match Made in Heaven [J], Journal of Intellectual Property Rights, June 20-31, 2022
- [3] Zhao Lina, Research on Music Copyright Protection under Blockchain Technology [J], Science and Technology Innovation and Application, 2023.01:48-50
- [4] Zhang Meiyang, Research on the Application of Blockchain Technology in Music Copyright Protection, China Publishing, 2018.14:78-81
- [5] Li Jing, Analysis of the Impact of Blockchain Technology on the Music Industry, China Media Technology, 2019.04:58-60