



# Research on Short Video Copyright Transaction and Protection Mechanism Based on Blockchain NFT

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**Abstract.** In recent years, the short video industry has developed rapidly, followed by an array of related copyright infringement issues. In view of the current situation of copyright management, this paper, based on the existing legal system, clarifies the originality and reasonable use boundaries of short videos and proposes the short video copyright market governance model on the basis of blockchain technology. This paper aims to optimize the short video industry ecology, guide all participants in the industry to clarify their respective positions, promote efficient digital collaboration, and bring prosperity to the cultural market.

**Keywords:** Copyright Transaction and Governance · NFT · Digital Governance Model

## 1 Introduction

Since 2011, the short video industry has begun to show signs of development. With the successful operation of major short video platforms, the market size and the number of users within the industry have gained rapid growth. From 2021, the short video industry has gradually entered a precipitation period, and the entire industry structure has gradually stabilized. As more capital flowed into the short video industry, the priority of competition in this industry has shifted from simply pursuing user scale growth to enhancing user stickiness and mining user value.

According to the 48th “Statistical Report on Internet Development in China” released by CNNIC, as of June 2021, the number of short video users in China reached 888 million, and short video has gradually become the main application to attract new Internet users. It has strong capabilities and has gradually become the underlying application of the Internet. According to the “2021 China Online Audiovisual Development Research Report” released by the China Online Audiovisual Program Service Association, 46.1% of users have uploaded short videos in the past six months, and this proportion has increased significantly. It didn’t take long for the public to shoot videos from merely watching. Taking videos has become a way for the public to record their daily lives,

express themselves, and convey their attitudes towards life. The short video platform has become a platform that enables users to share their lives, spread knowledge, sell goods online and socialize all at once.

With the development of the short video industry, short video copyright protection has gradually become a hot topic for many platforms and users. The “2020 China Online Short Video Copyright Monitoring Report” released by the 12426 Copyright Monitoring Center shows that from January 2019 to October 2020, the 12426 Copyright Monitoring Center monitored more than 100,000 original short video authors, the National Copyright Administration’s early warning list, and key films and television programs. A total of 30,095,200 short videos suspected to be infringing were monitored, involving 2.72 trillion clicks, and the proportion of exclusive original author who was infringed reached as high as 92.9%. The short video industry faces serious problems such as imperfect rights confirmation mechanisms, unclear distribution of new copyright value, and difficulty in rights protection.

## 2 Domestic and Foreign Related Research and Industrial Status

Some domestic scholars have conducted related research on the originality of short videos. Li Jinbao et al. (2021) [1] proposed that in short video infringement and its governance, originality is the focus of controversy, and case practice is the basis of determining originality. The short video copyright governance in the context of digital copyright should adopt social collaborative governance, platform-based AI filtering governance, and comprehensive legal technology governance in terms of governance goals, governance subjects, governance objects, and governance methods. Sun Shan (2019) [4] believes that the key issue that needs to be clarified in the protection of short videos is the originality of short videos, and whether it is original or not should be determined according to the individual circumstances. Zhou Shuhuan (2021) [6] believes that judges should adopt a relatively loose judgment standard of “existence or not” in the judgment of originality in combination with the subject of creation and the achievements of creation.

In foreign countries, research on short video copyright issues mainly focuses on fair use and transformative use. The system of fair use originated from the three elements of fair use proposed by the United States in 1841 and was later written into the “US Copyright Act of 1976”. In the context of the rapid development of the Internet, scholars argue over the use scope of fair use. Spoor, J.H. (1999) [3] believes that the fair use system is a specific one, and the progress of technology has an important impact on the system. Liu Xiaochun (2021) [2] summed up the short video cases in the United States in recent years and proposed that when short videos are re-created, the risk of infringement should be reduced from three aspects: enhancing conversion, simplifying use as much as possible, and reducing substitutability. Wang Daishen (2018) [5] provided corresponding suggestions for the application of the theory in China by summarizing the over-expansion of the theory of “conversion use” in relevant judicial practice in the United States.

Current “Copyright Law” in Chinese provisions on fair use includes comments, interpretation issues, and personal use. Nowadays, the popularity of short videos makes it very difficult to determine the fair use of short video copyrights. Generally speaking,

the three-step test method of the Berne Convention is mainly used to determine whether a work is fair use. This paper believes that the criteria for judging the fair use of short videos can refer to the discussion of fair use in foreign courts and related judicial practices, and focus on the following three points for the judgment of fair use: First, determine whether the work has original content that is different from the original work, rather than simple picture stitching, such as adding personal evaluation, expressing one's own emotions, etc.; Second, to judge whether the work can replace the original work in the market, the existing judicial practice China recognizes the image thumbnail as a reasonable use scene. It is precisely because of its lack of market substitutability; third, it is necessary to judge whether it is necessary for the work to cite the original work.

There are three common types of short video infringements: direct transfer infringement, secondary creation infringement, and music and picture content infringement. The main reason why it is difficult to identify and judge infringements is that the confirmation of rights and the identification of rights are not clear, and it is difficult for rights owners to find and connect with the market. Nowadays, many companies or organizations have established video copyright protection platforms based on blockchain and other technologies, trying to create a one-stop service platform for copyright confirmation and rights protection. Although some platforms hope to expand copyright transaction business, the transaction volume is very high. Few. The reason is that the existing protection and service model does not touch the essence of copyright transaction and protection, and the supporting services are not yet perfect, which cannot truly serve the purpose of protecting the legitimate rights and interests of rights holders while promoting circulation. With the maturity of blockchain NFT technology, the field of digital copyright protection and services has also ushered in new development opportunities. In order to better adapt to various business scenarios of copyright transactions, this paper will provide a new constructive solution for short video copyright transaction and protection based on the application of blockchain technology and NFT.

### **3 Copyright Protection and Service Platforms Empower Copyright Transaction and Governance**

Under the current market model, short videos become more diversified. Videos are shorter in length, larger in quantity, smaller in investment scale, and shorter in the life cycle. The dissemination of works becomes increasingly dependent on network communication platforms. Platform data such as data, broadcasting, trading, etc., play a dominant role to speak on issues involving the interests of creators, such as copyright income, thus forming a mode in which one communication platform dominates the market, which is a restriction and a limitation for creators. Lock-in is not conducive to the sustainable development of the market in the long run. In order to improve the collective discourse rights and rights protection capabilities of many "small, scattered, and chaotic" creators, the short video industry can learn from the music industry to establish industry autonomous associations, such as the "Audio Authors Association" and "Audio Collection Association". However, in order to break up the dominance of the existing communication platform, relying on industry organizations is not enough.

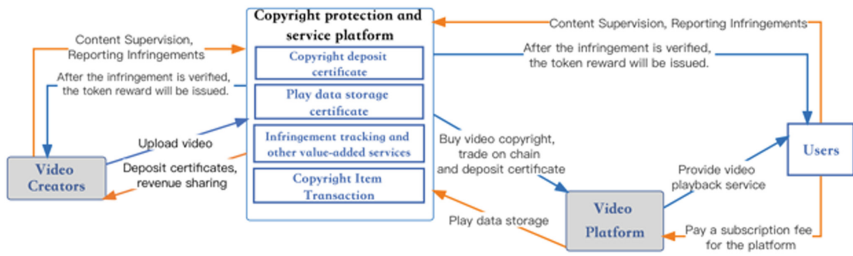


Fig. 1. Copyright Protection and Service Platform Mode

It also calls for advanced technical means, open and transparent information, and timely delivery of services.

The trend of digital copyright industrialization is platformization, which can not only effectively enhance the development of copyright commercial value, but also enhance the ability to trace the source of infringement. An independent, cloud-chain interconnected “copyright protection and service platform” (hereinafter referred to as the “service platform”) are built by a “third party” to realize transactions and services based on copyright “rights items”. It can fundamentally solve copyright transaction problems such as a large number of videos, unclear responsibility boundaries, complex transaction models, and difficulty in rights protection, enabling copyright transaction to achieve a multi-party governance model (Fig. 1).

Establish a professional online copyright protection and service platform, and promote the reform of the right confirmation, deposit certificate and transaction mechanism. Creators upload and register their personal works to the service platform and store the certificates on the chain. The works on the service platform can be purchased by various video platforms for copyright, and video copyright transactions can be carried out in a convenient, transparent, fair and open way, and can also be labeled with unique “first use”. In “Post-paid” mode, transaction records will be stored on the chain, and each transaction of the work will be granted an ID exclusive to the video platform so that the source of video infringement can be traced. The playback data of the video platform is transmitted to the transaction service platform, and the revenue is shared according to a fixed ratio or pre-agreed.

For creators, this model realizes the independent, controllable, verifiable and traceable copyright transactions of works, breaking the current situation of ambiguous and unbalanced copyright settlement and copyright monopoly caused by the video platform’s domination of the copyright market. Creators can purchase the rights protection services provided by the service platform to ensure copyright income.

For service platform, this model can realize one-stop completion of functions such as ownership confirmation, rights transfer, license use, infringement evidence collection, and dispute resolution, and establish a complete value chain of copyright transactions of “creation-authorization-settlement”. This model is more inclined to public welfare, but can achieve self-development through value-added services, such as infringement tracking and proof.

For video platforms, the “use first, pay later” transaction form provided by this model reduces the risk of video platform copyright investment and breaks up the copyright

resource monopoly of video platforms where “capital has the final say”. By sharing high-quality copyright resources, the video platform has returned to its identity as a dissemination service provider, and the market has returned to a benign model of service competition.

For ordinary consumers, this model solves the problem that video copyright resources are too scattered and the difficulty to find video rights holders. Users can obtain high-quality services provided by video platforms by paying subscription fees. At the same time, users can also monitor the use of copyright. In case of infringement, they can report through the trading service platform. After verification, token rewards will be provided to users.

#### **4 Digital Video Copyright Transactions Based on Blockchain NFT**

In the current copyright market, most of the video copyrights are stored on the chain for video works, while the actual circulation is mostly the demand and transaction of single or combined rights items of the copyright of the works. The perfect combination of blockchain and NFT can realize the splitting, trading, traceability, and rights protection of various rights items of each independent work, and realize the flexible circulation of copyright value.

In the blockchain, NFT is short of Non-Fungible Token. Each token can uniquely identify a digital asset. This paper proposes to apply the blockchain-based NFT design to the short video rights transfer process. Via uploading works to the service platform by creators, NFT based on blockchain technology can realize the association between right holders and the “original” attribute of digital works, ensuring that “rights are confirmed when the works are on the chain, and certificates are issued when the rights are confirmed”. The token created on the blockchain is not only the NFT of the work itself, but also the NFT of the various rights items of the copyright of the work generated at the same time according to the Copyright Law, so that the copyright rights of the work are disassembled and “issued” separately, so that each rights item can be realized. Stand-alone or bundled deals. NFT is built on the blockchain. Based on the decentralization, smart contracts, non-tampering, and non-fiction characteristics of the blockchain, it can realize the proof and protection of copyright items for the entire chain of digital works. Every time the copyright status changes, the transfer of rights relationship takes place on the chain, which facilitates subsequent rights distribution, transactions, revenue sharing, rights protection and proof.

In the confirmation stage, the creator of the short video needs to create a personal account — E-ID. When the work information is submitted to the service platform for registration, after the original review by the service platform, the author information, work information, timestamp and other data are hashed, and the work NFT is created and stored on the chain, and recorded in the creator’s account; The NFT identification P-ID of work creates NFTs No. 0 of multiple rights items of the work, and they are all recorded in the creator’s account. The creator can set the transaction method, transaction price, and the rights items that the work allows to be traded on the service platform. The uniqueness and directivity of NFT can make the copyright registration system more complete, accurate and meticulous, and traceable, so as to facilitate the visualization of the right confirmation and authorization path.

In the stage of rights use, the copyright transaction (i.e. authorization and issuance of licenses) of the video copyright service platform is mainly realized through NFT transfer or the creation of new tokens. The video copyright buyer also needs to register an account on the service platform and check the favourite works through the service platform. Ownership relationship, transaction method and price, trade with the seller on the service platform for the rights of the relevant works. If the transaction method transfers, the relevant NFT will be transferred from the seller's account to the buyer's account; if it is copyright permission, the system will automatically create a corresponding new NFT into the buyer's account according to the transaction information, timestamp, right license type, license time and scope, etc., to indicate that the buyer has a certain right to the relevant video work. Copyright transactions can be "spot transactions" by means of "direct pricing" or "negotiated pricing"; if it is a "futures transaction" of "use first and pay later", both parties must confirm the share ratio and settlement method of the relevant copyright income in the later stage. The service platform hashes the copyright transaction data and records it on the chain. In the rights protection stage, when users discover suspected infringements, they can collect and consolidate evidences of infringements through the service platform and the special APP developed by them. Through the interconnection with the judicial chain, the right holder can be provided with credible evidence of rights protection. At the same time, a special "incentive token" can also be issued for users who have reported forensics, thereby promoting the formation of a new model of multi-party governance of copyright protection.

## **5 Analysis of the Advantages of Copyright Protection and Service Platform**

Digital copyright is not a single right, but a combination of several rights items. In the traditional sense, digital copyright transactions based on works cannot separate rights items, so it is impossible to accurately trace the use of rights. This solution can realize the split, identification, transaction or combined transaction of a single right item of copyright. Each NFT can represent a specific right of a work, and each authorization and certificate issuance are realized through a blockchain smart contract, which is safe, reliable and traceable.

The copyright rights items enjoyed by the copyright owner are usually invisible, and the trustworthy deposit of copyright in the blockchain network can be realized through NFT. The copyright deposit is the basis for copyright protection and infringement judgment. Using timestamps, electronic signatures, on-chain storage and other methods to realize the full life cycle management of the certification, collection, storage, presentation and authentication of relevant rights item evidence, forming complete and transparent publicity and storage system. It solves the problems of the complicated electronic evidence collection process, high technical threshold for preservation process and high cost of rights protection.

The service platform has created a new creator-led copyright market transaction model. The service platform can track and record the use of copyright, and at the same time has certain data analysis capabilities, and can grasp the specific use and income of short videos. By providing more value-added services for creators to further encourage

creators to enter the platform, a virtuous circle of protection and service can be realized, so as to balance the absolute dominance and discourse power held by the video communication platform.

The new model not only conforms to the market mechanism design principles of new institutional economics on clear property rights and lower transaction costs, but also helps to create a good market atmosphere for multi-party co-governance and win-win cooperation. The new copyright protection and service model not only provides protection for creators to maintain their rights, but also improves transaction efficiency for copyright demanders, avoids possible infringement legal disputes, and provides the public with a platform to report and assistance for rights protection. Further, promote the efficient and sustainable development of the short video industry.

## 6 Conclusions

In the age of the Internet, everyone is a creator and a consumer. New creative forms and technical means constantly emerge, bringing opportunities and challenges to copyright protection and the development of cultural undertakings. The new model of digital works protection and service based on the blockchain NFT mechanism proposed in this paper establishes a social digital governance model of “serving the rights holders, taking the platform as the core, and engaging in the whole people”. At present, there is no domestic enterprise that solves the problem of short video copyright circulation through blockchain NFT, and the model concept proposed in this paper is still in the theoretical stage. There are still many challenges to face in future applications, which need to be constantly sorted out in practice and improved with the advancement of laws and technologies.

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