Research on the Copyright Based Recording Permission Model for Music Works

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Abstract
In this paper, the author researches on the copyright based recording permission model for music works, der to improve the efficiency of interactive sports function value bidirectional relationship model construction, the difference analysis method of non-shaping structure is proposed in this paper. The copyright permission of music works under the network environment is a global problem. The copyright of music works is more complex than other copyright types from the subject, object and type of rights. Faced with a large number of music works in the network environment and a large amount of public demand for music works, the traditional “one to one” authorization mode to solve the “massive works, massive authorization” problem is extremely inefficient. Under the network environment, copyright collective management license and statutory license are two effective licensing models to solve the copyright licensing problem. In this paper, the author discussed this problem with big data mining and the experiment result shows the proposed method and model is efficient in solving this problem.

Keywords: Copyright, Recording permission model, Music works

1. INTRODUCTION

The copyright licensing problem in the network environment is a global issue. The copyright of music works is a complex part, and it is more complex than the other types of copyright from the subject, object or right type. With the continuous progress of network technology and digital technology, music works have been increasing from the external form of transmission mode, the number of music works under the network environment, the rise of public demand for music works. With the increase of demand, it is not enough for our country to use music copyright licensing model to solve the problem of a large number of works, and the public authorization needs to be improved. Under the network environment, the copyright licensing mode of music works is not only the problems faced by developing countries and developed countries, but also in order to solve this problem, efforts have been made to change the current situation of music copyright licensing to adapt to the development of the music industry. The legislation time of China's copyright law is shorter than that of other countries, and the development of copyright permission system of music works is not mature.

Copyright collective management and statutory licensing model is set for copyright licensed music works in our existing solution network environment. However, the development of the two way authorization system is not accompanied by gradual improvement, but on the basis of the development of the music industry, the transplantation of other countries' legislation and related systems has led to a great deal of problems, such as the licensing, licensing and charging of music copyright (Tang, 2015; Fu, 2017).

In March 2012, the National Copyright Administration issued a draft amendment to the law on the right of landing in People's Republic of China. The draft has been introduced, which has caused a heated discussion on some terms. One of the most striking is the revision of two things: one is that the copyright collective management system "is introduced in the system of copyright collective management in northern Europe; the other is the revised 46" legal recording work, three months later, the statutory licensing regulations in the two is the change of music works copyright license is of great significance for the copyright of music works under the network environment. In the dilemma of music copyright world under the network environment, analyzes the copyright of music works in the legislation and practice of the current network environment of China's existing problems, and through a comparative study of the common law and civil law in the relevant system, and finally puts forward some comprehensive suggestions of music copyright licensing of the existing network the environment of our country (Zhuang, 2015; Cao, 2016).

The complexity of music itself also has the problem of copyright permission for music works. Under the network environment, music copyright licensing faces new challenges. One is the copyright of musical works, the complexity of music works, copyright issues include the complexity and dispersion of the object, on the other hand, the development of network technology and digital technology, has changed the way the external form and dissemination of traditional music, has brought new challenges to the copyright license for the goods. From the perspective of global macro, this paper analyzes the copyright of the music works under the network environment, and how to solve the plight of the network environment under the copyright of the music works, so as to find the right solution.


2. OVERVIEW

Starting from the predicament of music works under the network environment, based on the problems of practice and legislation, it points out the copyright permission of music works under the network environment. In fact, the key to solving the copyright licensing problem in the network environment is how to change the existing licensing system in order to cope with the low efficiency and high cost of large-scale projects and large-scale licensing. According to the copyright law of the draft amendment, it can be seen that the legal licensing of copyright collective management of music works and Phonograms effectively solves a large number of licensing issues. China's copyright collective management system has lasted for a short time. Many systems are based on the transplantation of the advanced system of the state, and inevitably exist problems in the operation of legislation and practice. In practice, there is monopoly in the collective management organization of music performing right, single licensing model, lack of standard dispute resolution mechanism, and low level of supervision and low level supervision of digital level (Deng, 2015; Long, 2015).

Similarly, in the statutory licensing of phonograms, the use of a model is not clear, the use of fuzzy conditions and payment systems are imperfect issues. From the legislative point of view, the legal permission of the collective management organization and the perfection of the copyright of the audiovisual works should be supported by law. The third part is a comparative study of collective management organization and statutory license. In foreign countries, especially in Russia, France, the United States, Japan and other developed countries, the development of the music industry, the development of copyright system is relatively sound. The research and analysis of the copyright permission system of music works to the foreign network environment has an important influence on the improvement of our legislation and related systems. The United States is a typical representative of the common law, the copyright system is relatively mature, the development history of the continental law system and China copyright, for similar countries, this section will focus on the two countries, the copyright collective management organization model, the internal structure, the membership system, a detailed analysis of several aspects of the relationship between households and. The licensing system of Phonograms and the statutory license of Berne Convention are analyzed, and the statutory licensing system in the United States and Japan is analyzed. Combined with the development of the actual situation of China's music industry, absorbing advanced experience, it finally demonstrated the improvement of the copyright permission of music works under the network environment. Based on the revision of the relevant provisions on the combination of "copyright law", comprehensive United States, introducing the relevant systems of Japan, put forward appropriate solutions to the music copyright license, from the analysis of the network environment to any music copyright licensing proposals are perfect in some contents. Figure 1 shows the network music works (Heidari, 2017; Shiraishi, 2015).

![Figure 1. The network music works](image)

The third revised edition of the "law of making right" in China has been started, and the revised draft has also published the first draft and the second draft. The provisions of the statutory licensing area for the recording of musical works are quite different. Copyright statutory license means that the user does not have the permission of the copyright owner, cannot use the copyright in the statutory circumstances, but need to pay remuneration. The thirtieth "fortieth laws of the right to do work" in China provide legal permission for recording musical works. The purpose is to prevent the copyright problem of the copyright of music works from market monopoly which is based on the protection of music copyright interests, so that the price of the recording products is much higher than the cost of their production costs, which is not conducive to the dissemination of
music works. China's copyright law stipulates that the statutory license for recording music works begins on the date of the regulation. Different from the academic point of view, the field of judicial precedent is inconsistent, so the system is greatly reduced (Frankl, 2015; Aichernig, 2015).

3. BIG DATA MINING MODEL AND ALGORITHM

To study the problems of the temporal association rules, cycle length, sequence patterns and so on, we need to introduce the concepts of temporal type and time granularity for the formally various time. Time can be regarded as a real number axis. Therefore, we name the moment in real world as the absolute time tick (ATT), all of which constitute a real number set R (or time axis). We choose January 1, A.D. 00:00:00 as the origin of the axis R. The precision of every point on the axis R is second or more precise unit. The interval from one point to another is called the absolute time interval (ATI), which is a set of ATTs. Figure 2 shows the big data mining scheme (Maletzky, 2017; Hsiao, 2016).

Figure 2. The big data mining scheme

Definition 1: Suppose that x is a mapping from an ATT t to an ATI, f(t), i.e., R->2R, teR, f(t)<2R<t [10], f(t), if all of the following properties are satisfied, then is called the temporal type and f(t) is called the temporal factor of the temporal type, f(1) (Non-empty), f(1)=1, at least t, f(t) holds.

(2) (Monotonous) On the condition that t>tz and t1, t2, t3, then for arbitrary t’ with t’[e], f(t) and arbitrary t’t’EIA. f(tz) holds, which is denoted as f(t)<f(tz).

(3) (Identical) Whenever tE [t, f(t), f(t) f(t) holds.

(4) (Limitary) For arbitrary t’ with t’(x). Second, minute, hour, day, week, month and year are all temporal type since they satisfied the above properties and can be used to partition time axis R. If f(t)(tE R) is only one point (i.e. time tick), then f is called atomic temporal type, otherwise f is called non—atomic temporal type. The temporal type usually used in our daily life is Non-atomic. For any t E R, set f(t) exist exact upper bound, i.e. sup f(t), and exact lower bound, i.e. inf f(t). That is for all t; with t; E},(t), and t; C sup f(t) hold. Then, we present the absolute length of temporal factor, f (t) with the formula absent f(t)=sup }. (t). Here, “absolute” is used to restrict the length and in contrast with the relative length which is given in detail in the definition 1.

Definition 2: Let x, y be two temporal types. If Absent (v(t))<Absent (f(t)) holds for any t E R, we call temporal type v less than temporal type ,f. And if there is only temporal factor of x noted as f(t) cause v (t) < f((t)) for any temporal factor v (t) of v, then v is called a basic temporal type of x. Obviously hour is the basic temporal type of day, week, month and year. The rest may be deduced by analogy. Whereas week is not the basic temporal type of month due to the overlap of temporal factors, i.e. a month can start in the middle of a week.

Definition 3: Let f be a non-atomic temporal type and v a basic temporal type of xi. There be exist, f (t)= U(v(t)) where t1<t2 < …<tn, Y(ti)<Y(tj). Therefore the relative length of X which is denoted as X(t).

Definition 4: Let x be a non-atomic temporal type and v a basic temporal type of f(x). If the lengths of all temporal factors of sequence X are off(x) are equal with Y is called the time granularity. If v is a time granularity, then is called the basic time granularity of x. So, the temporal types often used in our daily life such as second, minute, hour, day and week are time granularities. Obviously, second, minute, hour and day are the basic time granularities of month, quarter and year. Basic time granularity is often used to measure other time granularities. For example, in stock statistic second and day are often used as basic granularities to describe the trend of stock fluctuation.
Let \( V \) be a temporal type. An event that an objective \( A \) happens in state an at \( V(t) \) is denoted by \((A_1; \ldots, A_{V(t)})\). If the event is true, we say \( E(A, e, V(t)) = 1 \), otherwise \( E(A, e, V(t)) = 0 \). For example, we denote stock A's price increasing and high selling numeral on 2nd February by \((\text{Stock A, (Price increasing, High selling numeral, 2nd February})\). U is called temporal space model. So far we introduced the strict definitions of temporal type, temporal factor, time granularity and temporal event. The major motivation for considering such conceptions about time is that they are interesting and important for temporal modeling.

Figure 3 shows that the price of these stocks increases per two day after their prices decrease. These stocks have a good rule of fluctuation. We may buy these stocks at the bottom of price. But, when the price is stable, we do not buy these stocks. We consider a type of temporal pattern. It is still not difficult for us to find out temporal pattern of many states. Here, the temporal pattern of many states can deduce the temporal association rule.

The basic model for online error identification as follows (Wang, 2015; Hameed, 2016):

\[
TSP(t) = \begin{cases} 
TSP_1 & 0 \leq t \leq \Delta t \\
TSP_2 & \Delta t \leq t \leq 2\Delta t \\
\vdots \\
TSP_n & (n-1)\Delta t \leq t \leq n\Delta t 
\end{cases} 
\]

(1)

\[
\min d(T) = \sum_{k=1}^{n} \sum_{i=1}^{N} \sum_{j=1}^{N} c_{i,j}(k\Delta t)
\]

(2)

\[
st \Delta t = \frac{T}{n}, \frac{\Delta c_{i,j}}{\Delta t} = 0
\]

(3)

We may get the calculating method for the main index in the following equation (4)-(5):

\[
M_{ij} = \exp \left( -\frac{||x_i - x_j||^2}{\sigma^2} \right)
\]

(4)

\[
L = \left[ \begin{array}{ccc}
L_1 \\
\cdots \\
L_k
\end{array} \right]
\]

(5)

Their matching eigenvectors matrix is shown in the following equation (6):

\[
H = [h_1, h_2, \ldots, h_k] = A^{1/2}E
\]

(6)

So, we can get:

\[
U_{ij} = \frac{H_{ij}}{\sqrt{\sum_{i=1}^{k} H_{i,j}^2}}, i = 1, \ldots, n, j = 1, \ldots, k
\]

(7)

\[
P = I - A^{-1/2}MA^{-1/2}
\]

(8)

According to the equation (6), the calculating formula can be obtained in equation (7)-(10).

\[
g(x, \omega) = \frac{1}{(2\pi)^{2}} \int g(k, \omega) \exp(-ik.x) dk
\]

(9)

\[
g(k, \omega) = \left[ G_{ik}(k, \omega) \gamma_i(k, \omega) \right]
\]

(10)

\[
G_{ik} = (\Lambda_{ik} + \frac{1}{\lambda} h_i h^T k) \gamma_i(k, \omega), \quad g = -(\lambda + h_i^T \Lambda_{ij}^{-1} h_j)^{-1}, \quad \gamma_i = \frac{1}{\lambda} h_i^T G_{ii},
\]

(11)

\[
\Lambda_{ik}(k, \omega) = k^T C_{ik}^0 h_k^T - \rho \omega^2 \delta j, \quad h_i(k) = e_{ik}^0 k_j k_j, \quad h_i^T = e_{ik}^0 k_j k_j,
\]

(12)

We have study one type of temporal association rule for stock or data warehouse. Let \( k \) and \( r \) integers...
where \( r < 1 \) and \( k < 0 \). \( k \) is a variable and \( r \) is a constant. \( r \) and \( k \) represent the interest of a user on prediction.

We need to study temporal patterns of potential significance. Some objectives have the same temporal patterns under some constraints. For example, certain stocks have same length of periodic pattern or same temporal patterns under same states. Their temporal patterns mean that these stocks have same fluctuation, such as price and transaction. It can help us to find approximately the rule of integration for certain stocks.

4. COPYRIGHT BASED RECORDING PERMISSION MODEL FOR MUSIC WORKS

In order to realize the interests balance between the private interests and the public interests of the copyright owners, how to coordinate the conflict between them has become an important function of the copyright system. On the one hand, copyright law encourages copyright creation by giving legal monopolies to copyright owners, thereby protecting privacy rights. On the other hand, most monopolies may affect the spread and use of works, which may affect the public interest. If legal system construction can encourage creation and promote dissemination, economic and social benefits will be maximized. As an important component of the copyright limitation system, statutory licensing is the tool of balancing interests, and statutory licensing of recording production is an important part of it. By limiting the copyright of the copyright owners of music works, it can prevent market monopoly, simplify the authorized use of works, and promote the dissemination of works. At the same time, the copyright owner gives economic compensation, and also maintains the balance between the copyright owner's interests and the public interests. The statutory licensing system of copyright law recording in China is based on mature legislation in developed countries. Since 1991, China's first law on the right to work has been amended many times, but there are still some problems. Especially in the multi network convergence for the spread of works to provide a broader market, the interest in recording production is becoming faster and faster, and the related stakeholders are becoming more diverse.

From the ninety-ninth provisions of the law of right of ownership, the statutory license system of Phonograms has already existed. Although there are two major changes after two, 00, but the requirements of the system have been inherited. The first draft of the copyright law, the two recording, made great changes in the recording products, the statutory license "turn" to delete directly". This article will start with the historical changes of the statutory licensing system of Chinese phonograms, and combine the institutional disputes in the draft amendment with the relevant legislation. In the full argument based on the statutory licensing system of audio-visual products of legitimacy, as well as China's "copyright law amendment" forty-sixth article on progress significance, put forward the system of specific legislation for the basic proposition and the perfection of the system of. 1990 of China's "copyright law" article thirty-seventh paragraph first provides the first statutory license system; copyright law amended in 2001, delete the clause of paragraph first of the front thirty-seventh, narrowing the scope of work; in 2010 the provisions of paragraph third of the intact in March 2012 forthieth; the "copyright law" provisions of article forty-sixth of the draft of the revised "first published recordings" can apply statutory license system, then directly delete the statutory license system recordings in the second draft, the recovery for the author's exclusive rights. Figure 4 shows the copyright protection in online music.
The revision of the draft has caused a systematic dispute between professionals and scholars in the field of music. The controversy is mainly concentrated in the period of three months of protection, which is reasonable. The declaration reservation should be deleted. The system conforms to the status quo of the Chinese music industry and the copyright management system. The United States is the first country to implement this system, and it has its own legal characteristics. Do a lot of regulations to protect the copyright in the program, the user must pay on time, for the producers of sound recordings also gives the necessary adaptation of the rights of the original music at the same time, the network communication can be used in concrete works of legal system, the conditions, methods, use the behavior and legal remedies in detail the provisions of. The legislative purpose of statutory license plate people comply with copyright law, is the need of China's judicial, also the necessity of the existence of the forty-sixth and the current "copyright law" article forty-third paragraph third has obvious progress, designated three months' time permits, delete the "copyright declaration". However, the licensing system is still unclear, the time is not enough, the mechanism is imperfect. In this regard, the China recordings need to modify the statutory licensing system, extension time, the provisions of the subsequent act Su Luyin producer, licensed the cancellation of the original recording producer and performing authorized person hired after the singer and copy directly, while providing the copyright collective management organization unified fee, negotiate pricing mechanism, get paid by the mechanism of protection of copyright holders.

5. CONCLUSION

Statutory Permission for recording is a legal system that limits the copyright owner's right to record exclusive rights. It is widely accepted by the international conventions and the laws of the world. The legislative purpose of "phonograms permit" is to prevent the spread of musical works, to balance the private interests and public interests, and to prevent the monopoly of large producers of Phonograms by acquiring the right to record recordings. Since the founding of the PRC, the Statutory Permission for recording has been controversial in theory and practice. In the past ten years, judicial practice has proved that there is a profound difference between the judges' ideas, which has caused serious conflicts between judicial decisions, and also affected the judicial authority. To make matters worse, with the third amendment of copyright law, the issue of "statutory license for audio and video products" has been pushed to the front desk again. According to the copyright law of the draft amendment, it can be seen that the legal licensing of copyright collective management of music works and Phonograms effectively solves a large number of licensing issues. China's copyright collective management system has lasted for a short time. Many systems are based on the transplantation of the advanced system of the state, and inevitably exist problems in the operation of legislation and practice. In practice, there is monopoly in the collective management organization of music performing right, single licensing model, lack of standard dispute resolution mechanism, and low level of supervision and low level supervision of digital level. Similarly, in the statutory licensing of phonograms, the use of a model is not clear, the use of fuzzy conditions and payment systems are imperfect issues. From the legislative point of view, the legal permission of the collective management organization and the perfection of the copyright of the audiovisual works should be supported by law. The third part is a comparative study of collective management organization and statutory license. In foreign countries, especially in Russia, France, the United States, Japan and other developed countries, the development of the music industry, the development of copyright system is relatively sound. Starting from the basic theory, this paper studies the existence of recording system not only conforms to the actual situation of China, but also has certain sociological, legal and economic theoretical basis to a certain extent. In order to make Statutory License of Sound Recording play a better role, this article has made an analysis on the development of Statutory License of Sound Recording in our country, analyzed the problems existing in the system. By drawing on the successful experience of foreign countries and analyzing cases in the judicial practice in our country, this article has put forward several targeted maneuverable suggestions on Statutory License of Sound Recording in China.
References


