A Store Music Usage History Information Generation Method for Transparent Settlement and Distribution of Copyright Fees Based on Blockchain

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ABSTRACT

Recently, stores such as coffee shops, bookstores, and convenience stores are using music as one of the means to increase sales[1–3]. Since there are lyricists and composers who have the copyright for such store music, all rights holders will receive a proportion of copyright fees depending on the usage details provided by the stores[4]. In this paper, we propose a blockchain-based store music usage history information generation method for the transparent settlement and distribution that can be compared with the usage history provided by the stores.

KEYWORDS

Store Music, Usage History Information, Blockchain, Settlement and Distribution

1 INTRODUCTION

Recently, stores such as coffee shops, bookstores, and convenience stores are using music as one of the means to increase sales. These stores have contracts with trust organizations and can play the contracted music only. However, the only way to check how many times the contracted music has been played is the music usage history information provided by the store, and the copyright fees are settled and distributed to the copyright holders based on this information. Therefore, if the credibility of the usage history information is not guaranteed, there will be a difficulty in transparent settlement and distribution of copyright fees to the copyright holders. To solve this problem, in this paper, we propose a blockchain-based store music usage history generation method for transparent settlement and distribution of copyright fees.

2 A STORE MUSIC USAGE HISTORY INFORMATION GENERATION METHOD BASED ON BLOCKCHAIN

The overall diagram of the blockchain-based store music usage history information generation method for transparent settlement and distribution of copyright fees proposed in this paper is shown in Fig. 1.
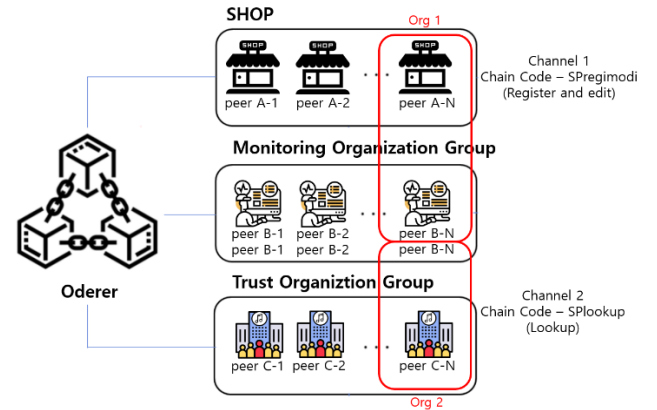

Figure 1: Overall diagram of blockchain-based usage history information generation method.

The participants in Fig. 1 consist of three groups: a store that uses store music, a monitoring business group that monitors music use, and a trust group that provides music to stores. The interaction among these three participating stakeholders will happen. In Org1,

there is an interaction between the store and the monitoring operator, and in Org2, the monitoring operator and the trust organization interact. In Org1, Channel1 chain code SPregimodi is executed, and it is a function to check the integrity of the store music played in the store and the data monitored by the monitoring operator. In Org2, Channel2 chaincode SPlookup is executed, and it is a search function for trust organizations to distribute to copyright holders.

3 STORE MUSIC USAGE HISTORY INFORMATION METADATA

For the usage conditions of store music, the store and trust group designate a monitoring operator to participate in the network. The information on the designated monitoring company consists of the trust organization unique code, the name of the trust organization, the monitoring company unique code, and the name of the monitoring company. Main contents of store music usage information metadata are shown in Table 1.

Table 1: Store music usage information metadata format

Item	Division
UCI	Store Music UCI Code
Music Title	Store music titles played in the store
Play Date	Play date of store music
Start Time (music)	Start time of store music
End Time (music)	End time of store music
Store Code	The code of the store where the store music was played
Store Name	The name of the store where the store music was played

In addition, the store music rights management information can be checked in the metadata format of the usage history information, the contents of which are shown in Table 2.

Table 2: Store music rights management information

Category	Element	Child element	Note
Copyrighted information	Identifier	UCI	Store music Universal Content Identifier
		ISRC	Store music International Standard Recording Code
	Music name	Title	Titles that represent store music
		Subtitle	Subtitle of store music
	Album name	Album code	A unique identifier to identify the album
		Album title	The title that represents the album
		Album subtitle	Subtitle of the album
Copyright Information	Copyright holder	Copyright holder code	Unique identifier of the person/organization that owns the copyright of the store music
		Copyright holder name	Person/organization who owns the copyright of the store music
		Copyright holder role	a copyrighted role in store music
		Ownership information	Shareholding Ratio of Store Music
	Contract details	License scope	Scope of use permission under the contract when signing a store music license
		Types of rights	Classification of rights to works as stipulated by law
copyright management Information	Buisnessman	Business code	Unique identifier code for each Store-music service provider
		Business name	Store-Music Service Provider Name
	Settlement code		Settlement code according to the service type of the in Store-music service provider
	Music code		Store-music management code for in-store music service providers
Usage information	Buisnessman	Business code	Unique identifier code for each Store-music service provider
		Business name	Store music Service Store Name
	Service	Service name	Store music Service Name of service the store provides
		Store classification	Store classification
	Music usage information	UCI	Store music Unique Identifier Code
		Music name	Store-music

Settlement information	Amount		title
		Usage time	Store music Year, Month, Day, Time Used
		Revenue information	Revenue information such as usage fees incurred by the service
		settlement fee	The rate at which the store operator settles

4 CONCLUSIONS

In order to solve the problem of the non-transparent settlement method of copyright fees, we have proposed a blockchain-based store music usage history generation method for transparent settlement and distribution. The proposed method may contribute to build a transparent settlement system for store music usage. However, it seems that it is necessary to study the search performance of setting the number of transactions and inquiring the usage history, and furthermore, the performance and cost of the current commercial system must be considered in order to commercialize the data obtained by the proposed method.

ACKNOWLEDGMENTS

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