Impact of digitalisation and legal tech on IP law: part one – blockchain and smart contracts

GRAF ISOLA Rechtsanwälte GmbH | Intellectual Property - International

> **What are blockchain and smart contracts?**
> **Possible applications in intellectual property**
> **Comment**

CLAUDIA CSÁKY

SARAH KASSLATTER

The days when lawyers could afford to think that digitalisation was irrelevant in legal services and clients could afford to have lawyers who had no idea about technology are over. This series of articles discusses digitalisation and legal tech in the context of their use in IP law. This article looks at how blockchain technology and smart contracts can be used in the field of intellectual property.

Concept of blockchain and smart contracts

A "smart contract" is a conventional contract between two or more parties, subject to the standards of civil law, the execution of which is automated on the basis of blockchain technology. To enable execution, the essential parts of the contract and its conditions are written directly into the code lines of a blockchain, so that the contract can be executed independently and without human involvement; in particular, without third party intermediaries or central authority such as a fiduciary or a notary.

The mere "automated execution" of contracts is nothing new, and was possible long before the rise of blockchain technology. The difference, however, is that blockchain technology – unlike conventional implementations – guarantees the unchangeability and unmanipulability of a contract and its secure and efficient execution. But how does a blockchain actually work?

A "blockchain" is a database – that is, a collection of electronically stored information. The information is written into the database in computer code, just like a computer program. The information captured consists typically of the main essentials of a transaction – namely:

- details of a contract (eg, the parties, contractual services, remuneration) or product (eg, the manufacturer); and
- specified terms in simple "if - then" instructions, usually connected to a payment, which are automatically executed when the specified conditions are met.

Smart contracts can therefore be employed where the details of a contract can easily be converted into machine-readable language ("0" and "1"), such as licensing systems. For example, if A is a trademark owner and B is a licensee, every time B pays a certain amount to A, B's licence will be renewed for one month.

The database consists of numerous chronologically interlinked (data) blocks. For each transaction, a new data block containing all information regarding the transaction is generated (eg, the arrival of B's payment). Each new data block is given its own checksum, the so-called "hash value", a cryptographic key which also contains the hash value of the respective predecessor block. This creates a chain of unique data blocks with a traceable and unchangeable history.

Blockchain technology thus enables the chronological, unchangeable documentation of the basic components of a contract or characteristics of a product and every related transaction.

Finally, and most importantly, unlike conventional databases, the data chain is not located on a single computer, but on many different computers that host the blockchain (this network of outsourced computers is provided by the blockchain platform provider – for example, Ethereum, which is currently the most popular blockchain platform that also offers smart contract development). Before a new block of data is added to the data chain, each computer in the network individually checks the new data block by calculating the checksum. Only when the checksum has been verified by all computers is the information added to the data chain and a consequence is triggered (eg, the arrival of B's payment results in B's licence being activated for another month). This decentralised outsourcing ensures the integrity of the database – that is, it makes the blockchain almost "unhackable" and safe from any outside influence (all computers in the network would have to be hacked or influenced in order for the blockchain to be compromised).

Possible applications in intellectual property

Self-executing licences

An area of application for blockchain in IP law could be in the field of copyright law. Authors of copyright work could, with the help of smart contracts, grant licences for the uses of their work through blockchain technology. For example, a musician could offer a song on blockchain-based marketplaces for copyright works and enable users to obtain (micro)licences for any use (no matter how small) in exchange for a payment via the user's electronic wallet. Before a transaction is carried out, the user's identity is verified by the blockchain network. To ensure that the user does not use a false identity, various authentication mechanisms are used upon registration on the blockchain network (eg, Ethereum), assigning each user a uniquely identifiable ID.

This approach would reduce costs by creating a direct link between creators and users. At the same time, since access to content would only be granted once the user's information and corresponding payment has been uploaded and validated in the blockchain, this approach would enable tracking of all (sub)licences granted and help with the enforcement of any claims.

Brand protection

Brands, especially those at the high-end of the market, could use blockchain technology to enable their customers to check the authenticity of goods, particularly in regard to second-hand goods. They could provide customers with an individualised code (eg, a QR code) when purchasing a luxury watch, for example. Scanning the watch's label or uploading other proof-of-purchase details in the blockchain could give customers access to a blockchain database containing the product's entire history, including its certificate of authenticity, issued by the brand and confirmed by everyone involved in the supply chain. If the buyer wishes to resell their watch, they could provide the new buyer with the QR code to prove its authenticity.

Some companies have already implemented such an authentication system. Luxury brands Louis Vuitton, Prada and Cartier joined forces in 2021 to form the Aura Blockchain Consortium, a non-profit platform that other brands are invited to join. The platform aims to use blockchain technology to help consumers trace and verify the authenticity of their luxury items.

Comment

Since the magic behind blockchain and smart contracts involves coding information into a database, setting up a smart contract or tracking the use of a client's intellectual property by third parties on a blockchain without having any programming skills is almost impossible. Thus, in order to implement automated distribution models or blockchain-based trademark protection systems for their clients, lawyers need to work together with programmers or – as soon as they become more common in the market – use specialised implementation tools.

Even if lawyers are not the creators of the technological framework behind such new instruments, it is essential that they know how they work in order to implement the specific legal requirements necessary to use and properly enforce them. The World Intellectual Property Organization acknowledged the potential of blockchain technology in its 2022 White Paper on Blockchain and IP Ecosystems, which explored the potential applications and opportunities presented by blockchain technologies to IP ecosystems.

While the practical uses of blockchain technologies are only in their early stages, they offer a great potential for making procedures simpler and more efficient for business practices with regard to IP rights.

For further information on this topic please contact Claudia Csáky or Sarah Kasslatter at GRAF ISOLA Rechtsanwälte GmbH by telephone (+43 1 401 17 0) or email (c.csaky@grafisola.at or s.kasslatter@grafisola.at). The GRAF ISOLA Rechtsanwälte GmbH website can be accessed at www.grafisola.at.