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THE CONCEPT OF BLOCKCHAIN TECHNOLOGY. USE OF DIGITAL TECHNOLOGY IN INTELLECTUAL PROPERTY LAW.

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Abstract. The author directly and indirectly analyzes the concept, meaning and role of blockchain technology in the social life of society. In particular, we are talking about the history of the origin of technology, the role of this technology in the protection of intellectual property. special attention is also paid to the legal status of this technology in a number of countries and the technical side: device and use. The specific principles of blockchain technology, its role in ensuring the effectiveness of its activities are described and studied. In addition, opinions are given on the main aspects of blockchain technology, such as cryptographic data protection, anonymous storage of users' personal data, and implementation of fast and efficient transactions. Moreover, the author analyzes the conception of NFT and its use of in intellectual property law.

Keywords: blockchain, transparency, bitcoin, security, hash, distributed ledger, virtual computers, users, transactions, NFT.

Introduction. Today, blockchain technologies have taken their place, penetrating into a number of social spheres, despite the fact that they are a new innovative technological direction. Along with the acceleration of the creation of a product of intellectual creativity of people, the issue of their use and protection is being actualized. In addition, as a result of improving the penetration of the Internet into the life of our society, access to information, information exchange and unauthorized use of property rights are increasing. In this case, there is a growing demand for technologies that provide transparent, reliable protection of the intellectual property objects being created. The reason is that today we all know that a number of technical methods are used in practice when using intellectual property objects, applying them in the turnover of civil legal relations, ensuring their protection, control and protection.

We can observe that the Internet, which is currently considered as a means of facilitating the living conditions of modern society, is instead the cause of violation of their protection, and not from the point of view of reliability in ensuring the protection of objects created within the framework of intellectual property policy [1].

Informatization of all spheres of social relations of our society is relevant here. We must increase the importance of digital technologies for the development of every society and state, ensure their penetration into all aspects of our society. The most convenient way to save all the information is to write it to the public. As a distributed data registry, blockchain technology can be introduced today.

Results and their discussion. First of all, the word "blockchain" comes from the English language and means "chain of blocks". According to the definition given in other literature, "Blockchain is a decentralized database that allows you to store information about the data(transfers) of all participants registered from it in the form of a separate "chain"." The Bank of England believes that "blockchain is a technology that allows people who do not know each other to use it reliably and jointly." In short, a blockchain is a continuous sequential chain of blocks containing information structured according to certain rules [2].

At this stage, it is advisable to clarify the basic concepts related to blockchain technology in the organization of its activities, i.e. based on the impossibility of presenting this technology separately from these concepts. As already noted, blockchain is also called the technology of systematized registries, the reason is that it is possible to store data in the form of a chain by a number of independent users. Even if one of the virtual computers fails and an error occurs, the data entered into the system is not lost, that is, it is saved.

Alternatively, if we focus on the core concepts, the first core concept is an asset. By the concept of an asset, we should understand old, important information. For example, money, property, securities, information. Assets can also be tangible: in the form of a house, a car, or fully digitized. The next key concept is transaction. The process of transferring assets from one person to another is called a transaction. For example, Person A wanted to give or sell an item belonging to him by right of ownership to person B. And the implementation of this process by a person is called a transaction. The transaction may provide not only for the transfer of a thing, but also for the exclusive ownership of it.

The next concept is transaction accounting. Transaction accounting is a record of all assets or ownership of assets that pass from one person to another. For example, person A wanted to transfer the corresponding amount to a friend of person B who was in another country. It is clear to everyone that problems with the system of issuing banks, hacker attacks, fraud and a number of other possible troubles can cause changes or loss of transfers. Such operational situations cannot be avoided because all data and processes are stored in one central system. However, blockchain technology reduces the likelihood of such situations, since this technology works on the basis of a distributed registry [3].

Distributed registry-manifests itself in the fact that data is not stored in the registry of one organization. Copies of this data are updated regardless of the number of virtual computers connected to the Internet at the same time. It is also characterized by the fact that the data registry available in blockchain technology cannot be forged on the spot. They have implemented the concept of consensus into blockchain technology to ensure that the data stored on computers will be complete and reliable for all users.

A number of users claim that even if their computer is turned off, unreliable information will not be reflected on users and will not affect the performance of computers if the data they entered is not authentic. The consensus process, that is, the stage of obtaining consent, is the restoration of actual data. In blockchain technology, information about all data transactions is placed in one block [5].

A block is a record of transactions made in a distributed registry. It will reflect how many assets one person transfers to another person. All blocks will be connected on the spot in a single chain.

The chain of blocks is unbreakable because each block refers to the previous block. Blocks N cannot be changed or deleted, you can only add new blocks to it. Under this condition, in any case, it is possible to restore the history of data on the transfer of certain assets and determine their former owner. Blocks in the block chain are loaded by miners [7].

The miner implements a number of functions in the blockchain:

- * Stores copies of the blockchain, and also protects data from loss or forgery;
- * Confirms transactions;
- * Checks transactions entered by other miners.

As a rule, the number of miners is unlimited. A large number of miners require the reliability of the system. Anyone can become a miner. To do this, they need specialized computers, as well as software. Miners are rewarded for registering new transactions.

As a reward, commissions are received from transactions recorded in blocks. Based on a certain algorithm, the system distributes rewards. To receive the reward, miners must solve a specific problem as indicated. The miner who is the first to solve a mathematical problem will be considered lucky and will be the first to place transactions in the system. This, in turn, depends on the speed of the miners' computers. The received rewards are transferred to the virtual wallet in the appropriate order.

The process of solving existing problems is studied within the framework of a separate science, which is called this science - cryptography. The concept of encryption is also directly related to blockchain technology. One of the methods of cryptography is encryption. In the Blockchain system, asset transactions made between users are carried out using appropriate cryptographic keys, that is, special unique digital keys. It is considered almost impossible to find out the sequence of digital codes. This situation, in turn, makes blockchain technology one of the best in this type of technology. When making transactions, it is recommended to use a virtual wallet with an Internet connection, in other situations, keep it disconnected from the Internet, which, in turn, will help protect data from hacker attacks [8].

Alternatively, in the storage of information under the protection of intellectual property technology related to the order of operation, as has been repeatedly stated, the blockchain (block chain) is a distributed data set in which data storage devices are not connected to a common server. These chains, i.e. blocks, are constantly growing, and its growing list is stored in the system. Each block will have a timestamp and a link to the previous block. The use of encryption ensures that users can change only the part of the block chains that they "own", in the sense that without them there are private keys that cannot be written to a file. In addition, encryption ensures synchronization of copies of distributed block chains for all users. Sometimes blockchain technology is called the "Internet of Values" [9].

The connection between the blocks is provided not only by numbering, but also by the hash value of the block itself and the block preceding it in each block. To change the information in a block, you need to edit all subsequent blocks. Often, copies of blockchains are stored on different computers independently of each other. This, in turn, makes it difficult to make changes to the blocks.

In its place, blockchain is considered by a number of experts as a technology of the future, the main function of which is systematized data storage. In short, decentralized data is part of a technology that stores the data or transfers of users who have passed through this technology, in the form of a chain. This technology is focused on thousands of virtual computers where users make transactions with the corresponding key created specifically for them. According to statistics, as of mid-August 2021, more than 75.6 million users worldwide have access to this technology, that is, to the blockchain wallet [10].

Directly referring to the history of technology creation, it would not be an exaggeration to say that blockchain technology is one of the largest discoveries of the XXI century. Not many people know that the history of the origin of a continuous chain of sequential blocks built according to certain rules containing information dates back to the early 90s of the last century. As the development of the blockchain improves from year to year, several programs have appeared that affect the blockchain as a result of research in the field of digital economy. In 1991, American scientists Stuart Haber and W. Scott Stornettas at that time created a system that most people called blockchain. Their early research focused on creating a cryptographically secure blockchain. With the help of this system, no one has managed to forge temporary signs placed on documents. In 1992, they improved their system, including Merkle trees, which increased efficiency and

allowed more documents to be collected in one block. However, the concept of blockchain technology was proposed by Satoshi Nakamoto in 2008, which was implemented for the first time for the whole world in 2009 [11].

Satoshi Nakamoto is considered the founder of blockchain technology. It is assumed that Nakamoto developed this technology in order to carry out bitcoin transactions. Bitcoin, on the other hand, was one of the first manifestations of digital computing technologies. Nakamoto stated that the capabilities of this technology can be used not only for cryptocurrencies, but also in applications of various other directions. Satoshi Nakamoto created the first technical regulation on this technology in 2009. In it, Nakamoto spoke in detail about how well he is equipped to increase digital confidence, taking into account the decentralized aspect of blockchain technology, and that no one can control anything [12].

Simply put, blockchain is a distributed digital billing system that is secure and used for transactions on many computers. The essence of these calculations lies in a system that is updated only by adding another block belonging to the previous block. It can also be thought of as a Peer-to-Peer (Peer-to-person) network that operates over the Internet. As noted, the first form of blockchain appeared as the main and general register of transactions carried out with bitcoin. At first, blockchain technology was intensively used in the financial and banking sectors. Currently, the areas of application of this technology are directly related to the development of social relations, in almost all sectors, in particular, transport, education, medicine, criminal proceedings, public services, tourism, agriculture, real estate, etc. The scope of application of blockchain technologists in the life of society is not limited. This technology can be used to record, store and track information in the cube networks of our society, from medical history records to electoral processes [13].

Moreover, Copyright protection is a separate phenomenon in the field of intellectual property it is considered and has special signs of protection. "the concept of copyright" In Uzbekistan in accordance with the law "on the right and related rights", they are as follows consists of:

- 1) the Latin letter "C" in a circle;
- 2) the name of the exclusive copyright holder;
- 3) the year in which the work was first published.

Referring directly to the works of Fine Art, human history with the development, in particular after the Renaissance period, their importance and value increased. This in turn regulates the relationships that depend on them required to put up. By the time of the present, the Fine Arts have also changed and its digital form or equivalents appeared [14].

The most common type of this is NFT-exchangeable tokens is. They are created on the basis of blockchain. What does this mean? It is in them originality and copyright mean that it exists in digital form. It is NFTs that have now become a big market and are countless at auctions, samples of digital creativity are sold again and again. In these processes also, one work can have several owners. How is it will it happen? When samples of Fine Art are injured in the case of NFT, the creator can use it as one or can issue in multiple copies and put on auction [15]. And this is one of the most important points of the right to follow, the author of the work in the clauses of being able to demand from the owner the right to reproduce his work changes attitude. That is, the author is this in the form of a pre-public offer makes it known that it requires the right. Fine Arts bought by the proprietor the sample can be repeated the next day.

Given that NFTs are mostly sold at auctions, this is not the follow-up another notable aspect of the law is the resale of the author from the seller 5% of the amount

(above twenty percent) as a fee to the author calls to focus on the issue of payment. How to solve it? Every time NFT trades the platform has a cryptocurrency of its choice. Participation in sales there for create a special wallet. This wallet is directly the author or seller it will be attached to the sample of creativity that you put on the auction [16].

Through this, the Fine Art sample is processed more than 20 percent each time when sold, the author can be paid 5% of it in automatic form. Is everything so easy? Introduction of digital technology a complicated process and it costs expensive. Second, with NFT trades the platforms involved are countless and give them an objective assessment or installing a certain standard is a troublesome business. What can be done? Standards based on them, studying the markets introduction and protection of authors by special codes. What does this mean? At an auction through a special code, an image sold to a specific cryptocurrency resale of an Art sample should occur only on these grounds [17]. This is exactly prevent unauthorized actions and ensure their limitation takes.

The NFT and the surrounding issues are being addressed by the international community it is advisable to recognize opinions. In particular, the Encyclop?dia Britannica NFT tells the authors not only about its signing samples of electronic creativity, but also the opportunity to benefit from it believes that it creates and the Forbes edition says that NFT is a very big risk, also noted that his future is still unknown. And experts from the international law firm Skadden believe that there are problems in real life and on the tables of the right to use noted [18].

Although NFTS have not yet developed in Uzbekistan, the right to follow it is wrong to conclude that the protection is limited only to NFT. There are now more and more samples of Fine Arts and their sales have been booming on social networks, in particular Instagram.

Sellers of samples of their creativity in the social network often through the post gives an announcement of the sale [19]. In it, detailed information and price announcement about kartinawill be made. In turn, Instagram has a paid subscription to watch profiles introduced, but it has not yet become popular. Again, there is disclosure, actions like oferta performed consciously at the base and unconsciously at the base being carried. While this appears another sphere for the right to intellectual property means that it was.

The specimens there also need protection because of the posts freely take or download a screenshot without the author's message and permission can [20]. And the solution to prevent this was implemented by Telegram. He is private the right to take screenshots on channels, send a message to another channel, chats left only to the owner of the channel. It seems to me that copyright, including Do not follow law enforcement can be noted as a technical tool for making. Do not follow the legal protection with the issue of direct payment now related. Because the main element that confirms sales is payment. Payment systems while countless but it has not denied payments with cash. When resale occurs and they are more expensive than 20 percent it is important for the author to confirm the amount of the initial sale price.

Also in the NFT market, examples of creativity are a certain set and has a register. Samples of Fine Arts, their authors, creativity recording samples and converting them into a legal fact is also digital it is impossible to do without technology [21]. Implementation of this task on the basis of special platforms, sites can. Such practice is introduced in relation to tenders, auctions. In general, do not follow the author for law enforcement, numerical confirmation of authorship in relation to the sample of creativity and from it is necessary to give the opportunity to digitize subsequent sales processes sale of samples of creativity in the form of a sample of digital Fine Art author [22].

Conclusions. Based on the above, we can come to the following conclusions. The technology of blockchain is not only plays a huge role in economics or transactions, but also in intellectual property law. As we know, according to our national legislation the registration of copyright is no necessary. According to Berne Convention, also this rule written. in addition to the sphere of copyright, non-compliance law also covers such areas as buying and selling, inheritance. This the importance of digital technologies in the Coordination of industries and the application of rights in them is high. Technical means in the protection of copyright and related rights are based precisely on digital technologies will be created. The author's rights should be noted in the digital space in the first place, even if the industry has now entered the development circuit. Without it, it is impossible to properly organize further processes. Protection cannot be carried out on the basis of digital technologies while it is not recorded. At the very least, it is necessary to explain to the authors that any sample of creativity they create is under protection, and this is true even after they die. Payment systems, social networks, competent authorities in the field are directly involved in these processes, and their activities must be directly coordinated. And also the fact that the samples of creativity of users in the virtual world are protected by copyright, and this can bring responsibility should create alerts. YouTube, for example, has been providing an opportunity for this to post special electronic litizens in a video description.

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