



Research article

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Legal Nature of Reproducing Museum Objects in the Digital Form of NFT

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Keywords

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Abstract

Objective: by revealing the legal nature of the nonfungible token (NFT), to propose a solution for the topical issues of legal regulation of relations emerging in the sphere of online market and Internet platforms, associated with reproduction and further use in the virtual environment of tokenized digital copies of original pieces of art.

Methods: the research was based on formal-legal and comparative-legal analysis, applied together with methods of law interpretation.

Results: a conclusion is made that reproduction of a museum object in the digital form of NFT is not equal to reproduction of a museum object in the simple digital format, as it does not contain such mandatory criteria as uniqueness, indivisibility and scarcity of the specific token. An NFT object acts as a digital original of an analog original of a museum object in the digital environment and the metaverse, not as a new form of media art. Expressed in the form of a uniqueness certificate of a digital object, an NFT object, by its legal nature and for the purpose of legal regulation of deals with it, refers to “other property” among the objects of civil law, which allows the museums to apply the respective contract constructs when structuring such deals.

Scientific novelty: the author proposes a new approach to considering and improving the legal regulation, accounting and storing NFT objects as virtual museum objects, the so-called digital equivalents of an item, which possess the signs of individual-definite character and uniqueness, differing from simple digital copies, digital pieces of art, 3D mapping, etc.

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Practical significance: the research results can be used for improving legal regulation of museum activity, correcting the civil and museum legislation, in particular, for defining virtual museum objects; for implementation of law, for example, when signing deals on using and selling NFT objects, in terms of specifying the content and volume of authorities of the right holders of the nonfungible token.

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Introduction

Before we discuss the role of a museum in a digital environment, it is necessary to consider the definition of a museum.

An extraordinary General Assembly of the International Council of Museums (ICOM) in 2022 adopted by open balloting a new definition of the “museum” as a permanent non-profit organization at the service of the society, which researches, collects, preserves, interprets and demonstrates material and non-material heritage. With the features of openness, accessibility and inclusiveness, museums promote diversity and sustainability¹.

The Russian legislator also refers museums to non-profit cultural establishments, created by owners for storing, researching and publicly demonstrating museum objects and museum collections, included into the Museum Fund of the Russian Federation,

¹ A new definition of “a museum” is adopted. (2022, August 26). *The Art Newspaper Russia*. <https://www.theartnewspaper.ru/posts/20220826-jord/>

as well as for achieving other goals established by the law². Thus, a museum in its essence is a non-profit organization aimed, first of all, at socio-cultural goals.

Besides legislatively endowing museums with special rights in the sphere of regulating the use images of museum objects while developing their educational and enlightenment activity and for attracting additional sources of income, a museum may also popularize its collection by digitalizing museum objects.

The result of such digitalization will be either reproduction of a museum object as an intellectual property object for commercial use, or tokenization of a digital piece accompanied by both simple reproduction of the image and creation of a derivative piece in the form of an art object.

The main task of a museum is to maintain a cultural function and to attract an additional source of income, establishing a balance between its mission and users' demands.

1. Legal nature of NFT

A museum acts as the owner of a museum piece – a cultural value, whose quality or some special features make it necessary for the society to preserve, research and publicly display it, establishing a special legal regime for such objects³, including by implementing their tokenization in the future.

Tokenization is the process of transferring the rights to material objects into tokens, i. e. creation of digital analogs of real objects to enhance the protection of these objects under their circulation in the segment of online market (Novoselova, 2017). For digitalization of museum objects, due to the features of individual-definite character and uniqueness of the object, nonfungible tokens (NFT) are used, which are stored in the distributed ledger system. Such tokens possess the properties of uniqueness, scarcity of a specific token and indivisibility⁴.

There is an opinion that law is not efficient enough to regulate relations in the virtual world, and its role is decreasing (Zaloilo & Pashentsev, 2019). At the same time, it is necessary to define the legal nature of NFT, as well as the volume of authorities for such objects in order to uniformly regulate the legal relations, provide effective legal protection and safe circulation.

Today, in Russia there is no special legal regulation of NFT market. However, attempts of legislative regulation are made. In this case, digitalization significantly influences the public relations regulator (Pashentsev, 2020), as the emergence of new objects facilitates the formation of a new legal framework and regulation of relations within it between its

² On the museum fund of the Russian Federation and museums in the Russian Federation. No. 54-FZ. (1996). *SPS KonsultantPlyus*. https://www.consultant.ru/document/cons_doc_LAW_10496/

³ *Ibid*.

⁴ Non-fungible tokens (NFT). *ethereum.org*. <https://ethereum.org/en/nft/>

subjects. For instance, a law draft was introduced into the State Duma, which proposes including NFT as a result of intellectual activity into Article 1225 of the Russian Civil Code⁵.

At the same time, NFT is a certificate of uniqueness of a digital object, which consists of a code and is automatically generated by the system. Thus, its creation lacks creative character, which contradicts the terms of protectability stipulated by law (Rozhkova, 2020). NFT is considered as a technical means allowing shaping an object of intellectual property into a token, with its condition being registered in a solely possible, unchangeable form (Dolganin, 2021).

Returning to the issue of correlation between the real and virtual art, the former preserves its value under the presence of a certain socio-cultural mission, artistic idea, which would not contradict the principles of culture established in the society (Koroleva, 2018). Cultural rights are subject to special protection, as they are aimed at preserving the cultural heritage and maintaining the overall cultural development of the state (Zhukov, 2020). Digitalization of culture allows opening new opportunities for implementation of creative projects (Andreyko & Muzhzhavleva, 2021), providing active involvement of museum organizations of the new generation, oriented towards digital format of information perception.

At the same time, each law order in the virtual era maintains its specificity depending on its national-cultural identity (Gavrilova, 2021).

Touching upon the sphere of society development in the context of interaction and correlation between virtual reality and the real world, NFT objects may become a link, capable of transferring material objects – real things – into digital objects endowed with the same value characteristics as the analog objects, but having a greater extent of preservation, so to speak.

But what is NFT and what position does this object occupy in the system of current legal relations? Today, NFT objects are non-defined objects which are not legalized in legislation. For example, Yu. V. Brisov, A. A. Pobedkin et al. believe NFT can be referred to a digital asset ("other property"), based on such a criterion of NFT as individual certainty (Brisov & Pobedkin, 2022), taking into attention, inter alia, the right-certifying function of the nonfungible token, its creation without operators and without observing the requirements of the legislation about the digital financial assets. A similar opinion about the possibility to correlate NFT to other property, but only before special legislation is adopted, is shared by D. S. Emelyanov and I. S. Emelyanov (Emelyanov & Emelyanov, 2021).

Other authors have a different opinion about referring NFT to the objects of intellectual property, stemming from the non-material nature of such objects, to which provisions of Part 4 of the Russian Civil Code⁶ should be applied. NFT acts as a software code falling within the copyright norms as a computer program.

⁵ On making amendments in Article 1225 of Part 4 of the Russian Civil Code (as regards broadening the list of protected results of intellectual activity in the form of nonfungible tokens). <https://sozd.duma.gov.ru/bill/126586-8>

⁶ *More than a property: attempting to include NFT into Russian law.* (2022, May 21). <https://iz.ru/1337541/ekaterina-korinenko/bolshe-chem-sobstvennost-nft-pytaiutsia-vpisat-v-rossiiskii-zakon>

However, referring these objects to copyright objects contradicts their legal nature, due to the lack of creative character of activity when creating a token. According to E. Portman, from the viewpoint of legal nature, NFTs are comparable to the category of digital rights⁷. By the terminological meaning of the word and in compliance with the civil rights' objects stipulated in Article 128 of the Russian Civil Code, one may assume that NFT objects fall within the category of digital rights. A nonfungible token as a certificate of uniqueness of a digital object contains only a URL address, which shows its location on the distributed ledger. Thus, NFT contains certain metadata, linking a line of code in blockchain with the source file – a piece of art.

Stemming from the current legislative norms, digital rights are liability and other rights, the content and terms of implementation of which are determined in compliance with the rules of information system, conforming to certain indices⁸. There are two types of digital rights: digital financial assets and utilitarian digital rights.

At the same time, NFT cannot be referred to digital rights, as the key function of a nonfungible token is the certificatory one. NFT is a digital record which allows linking a digital piece of art, in this case a digital copy of a picture original, with its owner. Each transaction related to NFT and the piece of art linked to it is kept in the register with the help of the Proof-of-Work (PoW) algorithm, which allows easily and reliably transmitting digital assets and confirming the property right to the piece of art (Vasan et al., 2022).

The issues of the legal nature of NFT are already reflected in the foreign judicial practice. For example, a Hangzhou court in China admitted NFT to be unique digital assets belonging to the category of virtual property; it means they possess such characteristics as price, rarity, manageability, control over a digital asset (ownership), and possibility to trade (disposal), and are subject to legal protection as property⁹. Thus, nonfungible tokens come within the definition of property with the attribute of “virtual”, which practically equals them with traditional items.

The opinion of the academic community about the correlation between author's rights and rights in rem is also controversial. E. Avakyan¹⁰ marks that NFT is a convenient way to sell in the digital environment items, endowed with individual features, without adding novels to the institution of intellectual of intellectual law. Given the lacking dependence between intellectual rights and the property right to a material carrier (object), in which

⁷ Legal status of NFTs is not specified. <https://www.kommersant.ru/doc/4869155>

⁸ Civil Code of the Russian Federation, Part 1. SPS KonsultantPlyus. <https://www.consultant.ru/>

⁹ Dispute associated with the transaction of a digital collection. <https://mp.weixin.qq.com/s/WWnZAxqiIVJ-dHO90eoBVw>

¹⁰ Hermitage sells its collection in NFT. (2021, August 20). Vc.ru. <https://vc.ru/ipquorum/284386-ermitazh-prodaet-svoyu-kollekciyu-v-nft>

the respective results of intellectual activity are expressed, M. A. Rozhkova¹¹ proposed a concept of property rights to new non-material objects. Its main idea is that a purchaser of NFT acquires not exclusive rights but other property rights similar to the property right to the material carrier of such a result placed on a specific webpage (URL). In our opinion such construction is correct, as, similar to purchasing a material object embodying a certain result of intellectual activity, the buyer does not automatically acquire exclusive rights.

In foreign practice there is a precedent of demarcating rights to a material carrier and a piece expressed in it. The Barcelona Commercial Court (Juzgado de lo Mercantil) heard a dispute between Mango brand and the Spanish artists' society VEGAP (Visual Entidad de Gestión de Artistas Plásticos)¹². The essence of the dispute was that Mango created clothes using pieces of art. The artists' society filed a case on behalf of the artists for violating copyright, consisting in creating and demonstrating NFTs. The position of the brand was that Mango implements the rights of the pieces' owner, as it owns the material carriers and does not violate the artists' exclusive rights to redesigning. Besides, the pieces of art were not reproduced, as NFT is another form of pieces of art. However, the court supported the artists' society, stating that possession of a material carrier is not equated to the presence of exclusive rights to the piece of art expressed in it. Thus, one may conclude that NFT is viewed as a means to reproduce a piece of art in a digital environment, while the presence of rights to a material carrier of the object embodying the piece of art does not endow the right owner with exclusive rights to it.

In this regard, both the Russian and the foreign legislation do not so far contain any direct legal provisions to regulate the relations of subjects regarding the circulation of digital objects certified by NFT standards. However, practice is formed through contractual constructions and judicial disputes.

Nonfungible tokens possess the signs of uniqueness and singleness of a specific digital object, indivisibility and scarcity, which significantly distinguishes them from digital financial assets and digital currency, as the latter may be replaced for similar objects at any time. Thus, fungibility, consisting in the possibility to substitute one object to another of the same type, is the key feature of currency and digital currency.

Deals of purchasing and selling NFTs are performed at special Internet platforms called marketplaces. These platforms base their functioning on smart contracts which consolidate the agreement between the parties about the emergence, change or termination of certain obligations, the terms of which are automatically recorded,

¹¹ Rozhkova, M. A. (2021, December 13). What is NFT (Non Fungible Tokens)? *Zakon.ru*. https://zakon.ru/blog/2021/12/13/nft_eto_takoe_what_is_nft_non_fungible_tokens

¹² *Decision of the Barcelona Commercial Court*. <https://www.poderjudicial.es/search/AN/openDocument/fb7c927281ec693aa0a8778d75e36f0d/20221121>

executed and/or provided by a computer algorithm through implementing software operations (Grigoryev et al., 2021).

These features of working with NFT objects increase the levels of protection and transparency of deals with digital pieces of art, secured in a token shell. As records are kept in a distributed ledger, falsification or copying of such objects is reduced to a minimum. It is for a reason that NFT system is considered today not just in the aspect of selling pieces of digital art, but also in terms of verifying other rights (Dowling, 2022).

While the problem of falsification can be solved through NFT, the problem of copying an object pertains and is being solved through the artificial intelligent capabilities. Not only legislative regulation but also the common system of fighting against copying unique objects is lacking. This is not about copying a blockchain record but about copying the digital object per se, expressed in NFT. If a respective token is sold, a single digital code is transferred and a smart contract is changed, so simultaneous use by different persons is impossible; however, the result of reproduction of a museum item in a simple digital form for commercial use, contained in a computer file, can be copied and transferred an unlimited number of times, including transferring the electronic image to other persons, and the possibility of using it by the same person is not excluded. Thus, the verge between a single possible right holder and other persons is blurred.

Thus, stemming from the analysis of the cited opinions of researchers and judicial practice, we form the author's view on the legal nature of NFT, which consists in the following.

NFT does not refer to digital rights (digital financial assets, utilitarian digital rights) and digital currency, as it possesses the criteria of uniqueness and non-fungibility, as well as the function of right-certification, not payment.

The most optimal legal construct, in our opinion, given the features and specific characteristics of such objects, would be to apply the norms related to "other property"; their list is now open and corresponds to Article 128 of the Russian Civil Code in the form of digital assets requiring special legislative regulation, including expanding to them the norms of rights in rem and taxation norms as it pertains to selling another property in compliance with Chapter 23 of the Russian Taxation Code. In the context of museum legislation, the museum property will be considered a virtual museum item, to which the right of the owner – the museum – will be expanded.

As for the content of the authorities of the nonfungible token right holder, one may list the main rights of the NFT purchaser: the rights of ownership, use and disposal, which also correlates with the standard property rights in its content.

Having analyzed the practice of deals with museum objects in the NFT format, one may distinguish the main volume of authorities of a purchaser of such objects. Owning of a nonfungible token actually consists in owning a digital code with the relevant data recorded in a smart contract. The object can be used for personal purposes and through demonstration, including for commercial and non-commercial purposes, for example,

to arrange an exhibition in a digital form. As for the disposal, the right owner may sell NFT to a single buyer, as it implies a complete transfer of an object without other people's possibility to use it. For the exclusive rights to an intellectual property object, for which an NFT was issued, to be transferred to the right owner, it is necessary to sign a contract on exclusive rights alienation or a license agreement, as the fact of the NFT purchase is not enough.

2. Forming the legal regulation of NFT in a museum environment

Without the development of NFT legal regulation issues, it is difficult to imagine the development of museum sphere in the metauniverse. Besides determining the legal nature of nonfungible tokens, in which pieces of art are expressed, it is necessary to solve the issues of accounting and storing museum objects in the digital environment, etc.

According to the norms of museum legislation, it is not allowed to include museum objects on a museum balance sheet¹³. Such objects are registered outside a balance sheet in accounting.

By the example of selling a Hermitage NFT collection, which will be discussed further, it should be noted that accounting and storing of such objects is the same as that of simple results of intellectual activity without an NFT format, transferred to a hardware wallet – a physical electronic device using random number generation to create public and private keys which are stored in the device without the Internet access. Such storage ensures safe access to a virtual collection of the museum on a blockchain platform (Tsyguleva, 2021).

Viewing the NFT collection as a set of results of intellectual activity without stating a digital format allowed the museum to account them as nonmaterial assets falling under the criteria of expected economic benefit, useful potential of employment, etc.¹⁴ At that, the NFTs offered for sale were not accounted as nonmaterial assets. The copyright to digital pieces belongs to the Hermitage and are inalienable.

Of interest is the construct of owning exclusive rights for a piece, including the result of reproduction of a museum object, which image is a public domain. However, this construct does not fit tokenization of museum objects without creating new art objects. The Hermitage acted as an innovator, while foreign museums chose just to digitalize objects from a museum collection into an NFT format.

¹³ On the museum fund of the Russian Federation and museums in the Russian Federation. No. 54ENG-FZ. (1996). *SPS KonsultantPlyus*. https://www.consultant.ru/document/cons_doc_LAW_10496/

¹⁴ *Guidelines on applying the Common plan for accounting for state authorities (state bodies), local self-government bodies, managerial bodies of state non-budget funds, state academies of sciences, state (municipal) establishments, adopted by the Order of the Ministry of Finance of the Russian Federation of December 1, 2010, no. 157n7*. <https://base.garant.ru/12180849/>

Besides, although the formation of a virtual museum collection is mentioned, it is not considered to be museum objects; this does not allow calling it a full-fledged collection, the meaning of which is clearly specified in museum norms. A museum collection is interpreted as a set of cultural values, which acquire the properties of a museum object only after being united together due to their origin and other signs.

Given the earlier proposed definition of NFT as other property on which the general civil legislation norms are expanded, it appears necessary to establish special norms of museum legislation as regards viewing such objects as virtual museum objects without recording them on the museum balance sheet but recorded, for example, in the experimental fund of the museum. Today, this fund may contain the museum objects created in unique modern techniques using computer and other technologies, which may further be transferred to the main fund of the museum¹⁵.

Thus, such objects will fall within the definition of a museum collection, the storage of which can be provided similarly to the Hermitage storing tokens. Today, the issues of storing digital museum objects are solved by placing files in a specially organized protected electronic archive – a digital repository. It is necessary just to make a respective clarification and demarcation between the notions of “virtual” and “digital” museum object, which are already mentioned in the legislation.

3. Role of NFT in reproducing museum objects

In case of museum organizations digitalizing their collections into NFT, besides a single purchaser of a tokenized digital copy of an original picture or a created art object, there is also the museum which plays the role of a so-called general holder of the right to the result of reproduction of the respective museum object and its further use. Selling a digital copy of an original in an NFT format does not deprive the museum of the opportunity to create other tokenized objects based on that piece, and those objects will also be unique pieces of digital art in the form of art projects.

Museums actively get involved into digitalizing their collections, issue digital postcards, and organize exhibitions accompanied by selling digital pieces of art in unlimited amounts. However, there is an opinion that, with the development and scaling of virtual space, the issuance of NFT objects by museums may lead to an irrecoverable loss of the digital copy of an original picture from the museum collection; this is termed “digital deaccession”¹⁶. This actually may be true, as NFT serves as a digital original of an analog original of a picture; it is not a new form of digital art, but a means of digital recording.

¹⁵ Order of the Ministry of Culture of the Russian Federation no. 827 of 23.07.2020. <https://docs.cntd.ru/document/542672925>

¹⁶ Art Analytics. <https://www.artnome.com/art-analytics>

Due to NFT-based digitalization of assets, the real-world assets may be correlated to blockchain and provide circulation and estimation of value in the digital world (Wang et al., 2021). All resultant processes start and finish in the distributed ledger system in compliance with the smart contract, which implements its functioning automatically, at that providing the transparency of deals with NFT objects transference, their safety and certainty, to avoid probable risks associated with the human factor. However, one cannot exclude problems with personal identification and loss of access to the blockchain system.

Today, we face the situation when art generates a new type – media art (Savchuk, 2017). In determining the legal nature of NFT, it is important to account for accurate definition of this notion, as there are also other digital objects in the digital space, for example, DAW (digital art work) – a patented technology protecting a digital copy of an original picture from copying, falsification and theft, using the latest advances of cryptography, which is very close to NFT¹⁷.

DAW refers to the sphere of media art, where information (computer) technologies are used, as a result of which museum objects are reproduced in a digital form. By their legal nature they are close to standard digital copies of the originals of pieces, expressed in an electronic format, but not in a decentralized system. Here one may refer an ordinary digitalization or scanning of a piece, as well as the pieces of art modified using computer means.

Sepaking of the differences between NFT and DAW, one may give an example of a recent exhibition in London's Unit gallery, which digitalized, using a certain technology of ciphered digital pieces of art by Cinello, and sold facsimiles of well-known masterpieces, such as Modigliani's "Head of a girl", Leonardo da Vinci's "Loose-haired woman" and "Portrait of a musician", Caravaggio's "Basket of fruit", Raphael Santi's "Madonna of the goldfinch", Francesco Hayez's "The kiss".

A purchaser of such a digital piece, unlike a purchaser of NFT, where a unique digital code is transferred, acquired material carriers: a screen, internal memory which generates the image, a replica of the original frame and a certificate of authenticity. Also, they acquire the cryptographic certificate per se – NFT, and a login to enter an application and register themselves as the owner¹⁸. As it appears, DAW objects are rather aimed at esthetic function, as the emphasis is made on the material character of the piece of art.

¹⁷ Museums have burnt fingers on NFT – Italy suspended production of cryptocopies of masterpieces. (2022). *The Art News paper Russia*. <https://www.theartnewspaper.ru/posts/20220927-pxvc/>

¹⁸ Pictures by Raphael, Michelangelo and da Vinci will be sold as NFTs. <https://rossaprimavera.ru/news/89544ec6>

However, digital art not only uses electronic technologies, but also forms a certain digital product, for example, a vector-based image, compilations in Adobe Photoshop software, virtual space or NFT, to name just a few¹⁹.

Museums also actively use other forms of digital art depending on their conceptual component, and the ways of exhibiting the reproduced museum objects in a digital environment can be different: from classical digital art to an NFT object certified by the blockchain system and having a value quality and a certain price, which cannot be transformed, or, for example, NFT holograms.

Some museum apply multimedia techniques of showing their collections or collections of other museums of the world, i. e. reproduction of museum objects in the format of the so-called immersive exhibitions, accompanied by demonstrating masterpieces in large screen in moving format. For example, exhibitions “Bosch. Revived visions”, “Van Gogh. Revived canvasses” and others made it possible to significantly increase the efficiency of perception and discern the smallest details of analog pieces of art.

Museums also use another format – video mapping; it allows demonstrating museum objects which cannot be shown in an exhibition when being restored or transferred to another museum institution. Like in immersive exhibitions, invisible details of pictures can be magnified using software creating a real environment and projecting an image. Besides, museums actively use 3D mapping “to animate expositions, to demonstrate video transferring one to another epoch”²⁰. It may generate a problem of museums rejecting real exhibitions in favor of virtual ones; it is important to observe balance and keep in mind, first of all, the sociocultural mission of a museum, aimed at involving the audience into cultural life, presentation of museum objects and transferring knowledge to the next generation.

Returning to the issue of NFT, today this object may have the potential in the sphere of intellectual property due to nonfungibility and uniqueness, which allow storing and not transforming information about the authors, provenance of the piece, its acquirers, etc. Research in the sphere of NFT are strongly focused on technical aspects of copyright regulation (Nadini et al., 2021).

It is argued that, in the jurisdictions where copyright must be registered, non-fungible tokens, due to specific features consisting in ensuring the uniqueness of objects encircled into a digital form, help to promote the protection processes and guarantee protection of intellectual property rights (Bamakan et al., 2022). That is, until the object is officially

¹⁹ A Short History of Digital Art: Between New Technologies & Innovative Artistic Practices. <https://magazine.artland.com/digital-art/>

²⁰ Spheres of application and costs of video mapping. POGUMAX Designer software. <https://pogumax.ru/sfery-primeneniy-videomappinga-i-ego-stoimost>

registered in relevant bodies, it ensures preliminary protection of this object in a virtual environment similarly to depositing.

In our opinion, just as in the situation with depositing, such preliminary protection cannot guarantee protection of rights to the results intellectual activity, as it consists in just registering the date, not in certifying the authorship.

Today, the lack of direct prohibition allows museums as owners sign such deals with digital pieces of art within agreement constructs. For example, one of the first museums to issue a token of a digital copy of a masterpiece for sale was Florentine Uffizi Gallery. Michelangelo's Doni Madonna was sold as NFT for \$170,000²¹. It shows that NFTs embodying museum objects are priced rather high. Such art can satisfy the demand for spending and investing.

As of February 14, 2022, the Austrian Belvedere Gallery announced a drop of NFT of Gustav Klimt's "The Kiss", which was divided into 10,000 tokenized fragments. A buyer became the owner of a random fragment of the picture and may register themselves as its owner in the website²².

Pieces of art possessing special historic, artistic, scientific or cultural value and included into the Museum fund are subject to special regulation within museum legislation. Such objects per se are not objects of intellectual property, but results of their reproduction may act as autonomous objects. At that, the NFT per se is not an object of intellectual property; it is a technical form in which a digital piece is expressed, in this case – the result of digital reproduction of a museum object or a derivative digital piece based of the original piece. NFT just certifies the right to own a unique version of a digital asset.

In Russia, the first and so far single deal of tokenization pictures from a museum collection was carried out by the State Hermitage in 2021. A limited series of NFT images of five pieces of art: "A corner of garden in Montgeron" by Claude Monet, "Composition VI" by Wassily Kandinsky, "Madonna Litta" by Leonardo da Vinci, Vincent van Gogh's "Lilac Bush" and Giorgione's "Judith" – was sold in the Binance open auction²³. That was a sort of an NFT collection, containing digital elements and possessing common features (Mekacher et al., 2022). At that, the price for a piece of art from the collection fell within the range determining its reputation.

²¹ In Italy, a digital copy of Michelangelo's Doni Madonna was sold for \$170,000. (2021, May 18). *Rules of life*. <https://www.pravilamag.ru/news/culture-and-entertainment/18-05-2021/262503-v-italii-cifrovuyu-kopiyu-kartiny-mikelandzhelo-madonna-doni-prodali-za-170-tysyach/>

²² Gustav Klimt's "The Kiss" in NFT and Freud's nude girl in an auction: news of art market. (2022, February 2). *Forbes*. <https://www.forbes.ru/forbeslife/454311-poceluj-klimta-v-nft-i-obnazennaa-devuska-frejda-na-aukcione-novosti-art-rynka>

²³ Partz, H. (2021, September 7). Russian State Hermitage raises \$440K via Binance NFT auction. *Cointelegraph*. <https://cointelegraph.com/news/russian-state-hermitage-raises-440k-via-binance-nft-auction>

The result of the exhibition-sale of virtual museum objects was the inability to ignore the global events. The museum acted as a conservative innovator using the advanced technologies to broaden the digital opportunities to get acquainted with the Hermitage (Tsyguleva, 2021). However, unlike the European experience of issuing tokens as simple digital copies of pictures, the Russian museum created a new format of cultural projects in the form of a memorable product²⁴.

From the legal viewpoint, this situation falls within the museum legislation norms on using works from the museum collection, namely, the provision of Article 36 of Federal Law of 26.05.1996 no. 54-FZ "On the museum fund of the Russian Federation and museums in the Russian Federation". In compliance with it, the use of museum objects with commercial purposes is carried out in the order stipulated by the owner, i. e. the state, speaking of the originals of works already being a public domain. While creation of a token is creation of a separate object of intellectual property (Brisov & Pobedkin, 2022).

At the same time, it should be noted that the provisions of the said Article cover not the use of the originals of museum objects as such, but the use of their images. This refers to transferring the rights for commercial use of reproductions of museum objects and museum collections, included into the museum fund of the Russian Federation and kept in the museums of the Russian Federation²⁵.

The Article provision stipulates the notion of using images; hence, it is not correct to say that tokens were created based on the originals of pieces never used commercially and still available in the Hermitage. Reproduction of museum objects was implemented as legislator delegates specific authorities to the museum referring to reproduction of museum objects, the result of which was the creation of digital versions of pieces of art.

Thus, the proprietary right of the picture owner, i.e. the museum, covers one material object – the analog picture belonging to the public domain. Then the result of reproducing the picture, as a quasi object of intellectual property (Burdova, 2022), expressed in the form of a digital original of the picture tokenized in NFT, is either transferred by a license agreement to the third parties, or alienated to the third parties. In this case, the result of reproduction becomes an autonomous object of intellectual property, while the prefix "quasi" shows that such object is not listed among the results of intellectual activity but, by its legal nature, contains a part of signs, including in respect of providing legal protection of the piece transferred to the public domain, in the absence of the museum's contribution to its creation, but in the volume and form of use coinciding with the exclusive rights to the piece.

²⁴ Moscow Digital School on blockchain legislation in Russia and Europe, crypto exchanges, NFT and taxation. (2021, October 25). YouTube – videohosting. <https://www.youtube.com/watch?v=dNgBssJss1g>

²⁵ On the museum fund of the Russian Federation and museums in the Russian Federation. No. 54-FZ. (1996). SPS KonsultantPlyus. https://www.consultant.ru/document/cons_doc_LAW_10496/

At that, the creation of a nonfungible token is not equal to creating a digital copy of an object of civil circulation, which is also the result of reproduction of a museum object. However, in case of the State Hermitage, the construction was more complex. The deal was performed in several stages; at the first stage the museum digitalized the picture original by photographing. This yielded two objects of intellectual property: the result of reproduction of a museum object (quasi object of intellectual property) and a photograph (a copyright object), the exclusive rights to which were transferred to the Hermitage by the agreement on the alienation of the exclusive right.

At this stage, the printed photograph (reproduction) was signed by the Hermitage Director M. B. Piotrovsky, which created a work made for hire, the rights to which were transferred to the museum. The final result was the digital picture with the signature of the Hermitage Director. The intermediate results were destroyed.

At the second stage, this digital result was tokenized into the NFT, or, as it is also called, the digital equivalent of the object, which is a certification of rights to possessing the respective digital asset with a certain set of exclusive rights to the piece.

Thus, art objects have emerged, including three files: a reproduction signed by the Director, a video of M. B. Piotrovsky signing the work and speaking about the piece of art, and a certified cryptographic signature²⁶.

The museum created a certain cultural concept, made a contribution, by not stopping at creating simple digital copies of pictures. NFT contains the information of the picture original, which has its value and exists in physical form (Kulakova, 2022), but the Hermitage avoided probable further claims on alienation of the digital original of an analog picture by keeping on copy of NFT of each piece of art in its collection, which was the start of its formation.

The buyers of NFT collection, based on the license, acquired the “right of enjoyment”, i. e. possession of a unique digital object, its demonstration and resale²⁷. Not to speak of the feeling of possessing a rare collection piece.

Thus, by alienating NFT, the Hermitage transferred the respective digital cryptographic certificate, but not the exclusive rights to a piece expressed in NFT. Besides, the museum may produce other pieces based on this experience.

The experts’ opinions about the signed deal are largely reduced to defining the legal nature of the objects put up for sale, including whether they are a mere reproduction of a museum object or a new object of art. K. A. Suvorova and O. V. Zhevnyak conclude that a new, although secondary, object of intellectual property in the form of NFT has

²⁶ Hermitage sells its collection in NFT. (2021, August 20). Vc.ru. <https://vc.ru/ipquorum/284386-ermitazh-prodaet-svoyu-kollekciyu-v-nft>

²⁷ Binance. *NFT Marketplace Terms and Conditions*. (2021). https://public.nftstatic.com/static/nft/res/aded11f38a4042fc97d8607d204e17aa.pdf?fbclid=IwAR2CvcXfkru9kKpx7Vq_FJyXp1VLzslEuv5BeXVqVt2Ws7FrO4ZVEu365oY

emerged, and the author of this work is the State Hermitage (Suvorova & Zhevnyak, 2022). A. Kuznetsova states the creation of derivative pieces with an autograph²⁸.

In our opinion, given the fact that the results of reproduction of museum objects are used and pieces of art are created on their basis, one may speak of creative derivative pieces of art, where the initial autonomous quasi object of intellectual property is a simple result of reproduction of a museum object.

Here we propose a certain legal construct. A museum keeps an analog picture – the original closely linked to a material carrier. The owner of the piece of art is the museum which performs digitalization of the piece of art, the exclusive rights to which have expired and it has been transferred to the public domain, i. e. reproducing the museum object. Then the result of such reproduction – a quasi object of intellectual property, the rights to which emerged in the museum, – is tokenized into the NFT format. A new art object emerges, falling within the definition of a copyright object, as it is created with creative work and in expressed in objective form.

Further, if it is necessary to commercially use the picture image, the purchaser must seek a permission of the museum for its further use in compliance with the norm of a museum proviso, which says that the pieces of art transferred to the public domain and kept in the museum fund can be reproduced with the permission of the directorate of the museum where they are kept.

In this regard, rather disputable is the position of D. Ozerkov²⁹, Head of the Modern Art Department of the Hermitage, that the selling of a digital original of picture would lead to the museum possessing its original to be unable to further copy it. One should not forget about the special museum legislation, which stipulates the features of reproducing museum objects and collections. Following such logic, museums of the world would have already lost a part of their digital collections.

The requirements of museum legislation cover not only museum objects but also the objects located in the museum territory and the museum building exterior and interior. For example, the State Hermitage and Till Lindemann (the leader of Rammstein band) signed a license agreement for using the Hermitage interiors in a video clip “Beloved town”. However, the singer broadened the rights vested to him by placing digital images of the museum interiors in an NFT marketplace. The Hermitage sent a claim on terminating the violation of rights, as the agreement did not stipulate photographing of the museum collection objects and interiors, their further tokenization NFT format, and selling them. Later the conflict was settled, and the Twelve X Twelve marketplace was granted the right to use the interiors in a digital form within an NFTill project on a payable basis³⁰.

²⁸ Hermitage sells its collection in NFT. (2021, August 20). Vc.ru. <https://vc.ru/ipquorum/284386-ermitazh-prodaet-svoyu-kollekciyu-v-nft>

²⁹ What does token speak about? What is NFT from Hermitage? <https://spbvedomosti.ru/news/culture/o-chem-govorit-token-chto-takoe-nft-ot-ermitazha/>

³⁰ Conflict between the Hermitage and Lindemann resolved without the actor's participation. (2021, September). Fontanka.ru. <https://www.fontanka.ru/2021/09/06/70120475/>

Thus, besides reproducing museum objects, the museum interiors can be transferred into virtual reality in an NFT format. It seems that with the digitalization development, NFT format will also have images of museum buildings, objects located in their territory, and symbols, including trademarks of museum establishments.

The fact of creating NFTs by museums and forming a virtual museum collection leads to both positive and negative consequences. The positive experience is the possibility to increase the number of "distant" visitors, familiarizing a younger generation to art, originality and uniqueness of the copies, possibility to view the slightest details of pictures, simplified tracing of violations with the technology of coincidences, preservation and non-amortization of the objects, saving money of restorations, possibility of getting access any time.

The negative consequences, in our opinion, are the transition away from traditional forms of a museum existence, which may have a negative impact on the elder generation, imposture of digitalization, possible loss of access to pieces of art due to technical failures, inapplicability of the institute of free use of digital pieces.

However, an obvious conclusion can be made that the market of NFT and digital art will develop, as even now full-fledged departments of digital art are being established, museums start forming virtual collections. This speaks of the absence of singleness in performing deals; virtual exhibitions using QR codes are organized, rights to digital copies are transferred on Google platforms, legislation is being developed. Museums are at the verge of Web 3.0.

4. Research results

1. Inclusion of museums into the digitalization process

The carried out analysis shows that today museum establishments are actively involved into the process of digitalization by creating non-fungible tokens – digital results of reproduction of museum objects and collections.

1.1. Legal regulation of NFT.

Despite the absence of special legal regulation of NFT in Russia, museums use agreement constructs enabling to structure such deals.

Reproduction of a museum object in the digital form of NFT is not equal to reproduction of a museum object in a simple digital format, as it contains mandatory criteria such as uniqueness, indivisibility and scarcity of a particular token.

1.1.1. Legal nature of reproduction of a museum object in NFT.

NFT per se is not an object of intellectual property, but a result of digital reproduction of a museum object may be considered within the frameworks of legislation in the sphere of intellectual property. The NFT object Expressed in the form of a certificate of uniqueness of a digital object, by its legal nature and for the purposes of legal regulation of deals with it, can be referred to "other property" of civil law objects.

2. Content of authorities of an NFT right holder.

2.1. One may distinguish the main rights emerging in a purchaser of NFT: possession, use and disposal, which by its content also correlates with the usual property rights.

2.1.1. Possession of a non-fungible token consists in actual possession of a digital code with the respective data registered in a smart contract. The use of the object is possible for personal purposes and by way of demonstration, including for commercial and non-commercial purposes, for example, when organizing an exhibition in a digital form. As for the disposal, a right holder may sell NFT to a single possible buyer, as the object is transferred completely, without the possibility of its use by other persons. For the exclusive rights to the object of intellectual property, in regards to which NFT was issued, to be transferred to the right holder, it is necessary to conclude an agreement on the alienation of the exclusive rights or a license agreement, as the fact of NFT purchasing per se is not sufficient.

2.2. Accounting and storing of museum objects in the NFT format.

2.2.1. Museum objects in the NFT format may be defined as virtual museum objects, not included into the institution's balance sheet. Accounting of such objects should be implemented in the museum's experimental fund, while further they may be transferred into the main fund.

2.2.2. It seems expedient to store virtual museum objects on a physical electronic device using random number generation to create public and private keys kept in the device without the Internet access. Such a storing technique ensures safe access to the museum's virtual collection on the blockchain platform, which is already actively employed in the museum practice.

Conclusions

Based on the above, one may conclude that the main specificity of using museum objects in the metaverse today, within contract constructs, is dissemination of imperative norms of museum legislation, besides the norms of civil legislation.

Museum objects in NFT format may be covered by the same property right of the museum as the analog museum objects. To form a virtual museum collection, these objects must be endowed with the features of a museum object. Thus, it is expedient to distinguish as autonomous objects the virtual museum objects subject to special accounting and storing without registering in the museum balance sheet.

A non-fungible token serves as a digital form of an analog original of a picture or an object of art, including reproduction of a museum object in the metaverse, and certifies the right to own a unique digital asset. The museum is entitled to organize selling digital copies of pictures in NFT, transferring to a buyer a limited set of rights: possessing, using and disposal.

Undoubtedly, regulation of virtual objects must differ from regulation of real objects. Thus, we consider it necessary to elaborate a separate legal framework for deals with digital pieces of art from museum collections into NFT.

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Правовая природа воспроизведения музейных предметов в цифровой форме NFT

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Ключевые слова

NFT,
интеллектуальная
собственность,
искусство,
метавселенная,
музей,
право,
токен,
цифровые активы,
цифровые права,
цифровые технологии

Аннотация

Цель: посредством выявления правовой природы невзаимозаменяемого токена (NFT) предложение решения актуальных вопросов правового регулирования отношений, возникающих в сегменте онлайн-рынка и на интернет-площадках, связанных с воспроизведением и использованием в дальнейшем в виртуальной среде токенизированных цифровых копий оригинала произведений искусства.

Методы: в основе проведенного исследования находится формально-юридический и сравнительно-правовой анализ, применяемые вместе со способами толкования права.

Результаты: сделан вывод о том, что воспроизведение музейного предмета в цифровой форме NFT не тождественно воспроизведению музейного предмета в простом цифровом формате, поскольку содержит в себе обязательные критерии в виде уникальности экземпляра, неделимости и дефицитности конкретного токена. NFT-объект выступает в качестве цифрового подлинника аналогового оригинала музейного предмета в цифровой среде и метавселенной, а не новой формы медиаискусства. Выраженный в форме сертификата уникальности цифрового объекта, NFT-объект по своей правовой природе и с целью правового регулирования сделок с ним относится к «иному имуществу» среди объектов гражданского права, что позволяет музеям использовать соответствующие договорные конструкции при структурировании таких сделок.

Научная новизна: предложен авторский подход к рассмотрению, совершенствованию правового регулирования, учета и хранения NFT-объектов в качестве виртуальных музейных предметов, так называемых цифровых эквивалентов вещей, обладающих признаками индивидуально-определенного характера и уникальности экземпляра, отличных от простых цифровых копий, цифровых произведений искусства, 3D mapping и др.

Практическая значимость: результаты проведенного исследования могут быть использованы для совершенствования правового регулирования музейной деятельности, корректировки гражданского и музейного законодательства, в частности, определения виртуальных музейных предметов; в процессе реализации права, например, при заключении сделок по использованию и продаже NFT-объектов в части уточнения содержания и объема полномочий правообладателей невзаимозаменяемого токена.

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