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Study on Tortious Liability of NFT Digital Work Trading Platform—Concurrently Reviewing of the First Case of NFT Tort in China

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As technical service provider, non-fungible token (NFT) digital work trading platforms directly gain economic benefits from transactions, and thus the platform should assume higher prior censorship obligation, bounded by the obligations due to a good administrator. When NFT digital work trading platforms bear the liability for calling off infringement, in case of failing to delete the infringing works on the blockchains, and punching the address blackhole may damage the bona fide trading counterparty; the system of "infringement without bearing the liability for stopping infringement" can be introduced to balance the interests of all parties.

Keywords: examination duty of intellectual property, standard, tortious liability

Description of the Problem

Non-fungible token (NFT), which is supported by blockchain technology and smart contract, has aroused heated discussions in digital collections, online games, IP industry and finance, and online platforms providing professional services for the trading of NFT digital works have emerged. According to incomplete statistics of 01 Blockchain and Forechain, the number of domestic digital collection platforms had reached 998 by July 2022, of which 640 were added in the first half of 2022, accounting for 64.1%. Ali Topnod, JD Lingxi, Baidu XChain, and other NFT trading platforms have launched NFT digital works, providing users with access, sharing, and purchasing services. However, the source defects of NFT digital works property rights and information asymmetry of market pricing mechanism may cause confusion in market governance, and speculative transactions induce fraud, causing a market bubble of digital works platform operation. Among them, Tencent Phantom Core, the first digital collection platform in China, announced its closure after less than a year of operation, which once again drew public concern about the operational risks of the platforms. Some NFT digital works trading platforms sell NFT digital works on the official websites or mobile applications, while some only engage in trading services and extract a certain percentage of network service fees from the transaction amount of the platforms, and the paper mainly takes the latter as the research object.

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In April 2022, the verdict of NFT digital works infringement case was made by Hangzhou Internet Court, and as the first case in the field, it has great theoretical value and judicial practice significance[1]. In the case, the trading platform that provided NFT digital works was finally judged to be liable for infringement, and the paper attempts to study the above issues. The plaintiff said that it had been authorized and enjoyed the worldwide property rights of the work *I Am Not a Fat Tiger* series work, which was created by cartoonist Ma Qianli. The defendant launched the digital work as a digital work release trading platform, but the plaintiff claimed that the registered user who launched the digital work on the trading platform had not been authorized by the cartoonist Ma Qianli. Therefore, the plaintiff believed that the acts of defendant constituted aiding infringement of information network transmission right, demanding the defendant stop the infringement and compensate for loss. Hangzhou Internet Court finally found that the defendant constituted infringement of information network transmission right and ruled that it should immediately delete the NFT digital work *Fat Tiger Vaccination* published on the platform involved in the case, and meanwhile, it shall bear a total loss of RMB 4,000 for the copyright owner of the work. Hence, where is prior intellectual property examination duty of digital work trading platforms? Is there any difference between the intellectual property examination duty of digital works trading platforms and general network service providers? How to bear tort liability? These are theoretical problems that need to be solved urgently.

Boundaries of Examination Duty of Intellectual Property of NFT Digital Work Trading Platforms

Reasons for NFT Digital Works Trading Platforms to Undertake Higher Intellectual Property Examination Duty

Generally speaking, network service providers shall not bear the prior intellectual property examination duty of digital works, which means that the court may presume that network service providers shall not bear fault liability for tort liability. The reasons for the establishment of the basic principle lie in the high costs of prior intellectual property examination duty by network service providers, and it is difficult to review one by one due to huge amount of information. Secondly, it is hard to review the legitimacy of intellectual property and it needs professionals to make judgments on the infringement, which is very costly. What's more, it goes against economic rationality that network service providers bear higher prevention costs for infringement, and it does not conform to the Hand Formula for judging the prevention costs, which is determined by Judge Learned Hand[2]. Under the goal of minimizing social loss, Hand Formula has allocation of risk among entities, and allocates risks to the party that can prevent with lower costs. Only when the risk allocation is unreasonable is the prevention required. According to the risk allocation principle established by the Hand Formula, even though it is not economically rational for network service providers to review the legitimacy of all information in information network dissemination, they can take necessary and reasonable measures to prevent infringement before

1 See Hangzhou Internet Court Judgment Instrument No. (2022) Zhejiang 0192 Civil Preliminary Trail No. 1008 for details.

2 The Hand Formula determined by Judge Learned Hand of United States Court of Appeals for the Second Circuit in Carroll Towing Case in 1947 can offer important guidance. Judge Learned Hand considered that if the prevention costs (B) is less than the product of the damage caused by the accident (L) and the probability of the accident (P), then the defendant is found to be negligent for failing to take precautions, which is expressed by the formula that there is fault when $B < PL$. The above rule is known as the Hand Formula.

information is released, thus limiting the faults of network service providers. Such fault situation is also identified in Chinese *Judicial Interpretation of Information Network Communication Right*[3]. However, NFT digital work trading platforms are not common network service providers, and they should assume higher prior intellectual property examination duty. First of all, according to Chinese judicial practice, based on the coordination of rights and obligations, NFT digital works trading platforms, as technical service providers, directly obtain economic benefits from the transactions and thus should assume higher prior intellectual property examination duty. "Direct" economic benefits derive from the fact that NFT digital works trading platforms have known or should have known of the content and public distribution of the works accused of infringement. For NFT digital work trading platforms, they are not platforms providing storage and linking services and charging fees by time and traffic, and they charge GAS fees when the product is minted and take commissions from the transactions. GAS fee refers to a fee based on the basic service itself and should not be recognized as direct economic benefits[4], and it can be interpreted as minting technology service fee generated by transforming general digital works into NFT digital works through blockchain technology, which has nothing to do with the form, content, and transaction price of the digital work and is a fixed price charged by the platforms[5]. In terms of the origin of GAS fee, it is a service fee paid by users each time they transact on Ethereum, and it is calculated on the basis of the amount of computation required to implement the relevant blockchain operation, which is similar to the fees charged by storage service providers for technical or hardware resources such as storage space, hardware levels, network broadband, etc. But the commissions taken by the platforms when having transactions should be regarded as "direct economic benefits". Secondly, NFT digital works trading platform displays and presents digital works to users. No matter whether the digital works are traded or transferred, and how many hands are transferred, they are always the specific copies that the minters initially uploaded to the platform server. If the minters' rights are defective, the authenticity of the information on the digital works trading platforms must be suspicious. Minters are the copyright owners of the works and they can directly upload the digital works to form a digital collection for releasing. If the copyright owners of works authorize other people to act as publishers, what they realize after transforming the works into digital commodities and copying and uploading to NFT digital works trading platforms is the authors' reproduction right and information network right. The right source of the transfer behavior after the generation of digital commodities is based on the definition of digital commodities as legitimate commodities. The NFT digital work trading platform involved in the case can conduct intellectual property examination to review that the minters have been authorized by the copyright owners, and such act is to review the legality of the source of the works to prevent infringement of the copyright of the digital works. Thirdly, the feasibility of prior intellectual property examination. NFT digital work trading platforms have powerful control over the works stored on the server. In the process of minting the digital work, after receiving the minting application, the platforms should review the work according to the operation process, check the registration information, and remind the minters of digital works to upload relevant proofs of ownership of the works. These

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3 See the provisions of Article 9(4) of Chinese *Judicial Interpretation of Information Network Communication Right* for details.

4 The provisions of Article 9.19 of the Beijing Higher People's Court in *Guidelines for the Trial of Infringement of Copyright Cases* states that the network service provider charges the users for standard services according to time and traffic for providing information storage space services, which fall outside the scope of directly obtaining economic benefits from the works, performances, audio, and video recordings provided by service objects as stated in Article 22.4 of the *Regulations*.

5 [http://zhuanlan.zhihui.com/p/447371551].

proofs include but are not limited to the draft, the original copy, the publication information, the copyright registration information, the blockchain deposit of the work, and the electronic deposit of the work, etc. It is a necessary process for the digital work trading platforms who are network service providers in the process of reviewing works, and is also a commitment made by the platforms to the counterparties when they purchase digital works. Consequently, the review of digital commodities to be launched does not substantially increase the costs of preventing infringement for NFT digital works trading platforms.

Standards for Platforms to Undertake Prior Intellectual Property Examination Duty

There are two standards in judicial practice for network service providers to assume prior intellectual property examination duty: beyond the reasonable doubt standard and the general probability standard. According to beyond the reasonable doubt standard, network service providers should ensure that the content posted does not involve infringement; otherwise they have not done their duty of reasonable review. Some experts do not think the obligation of the platforms to ensure the legality of specific information is in line with the requirements of the Hand Formula. According to the Hand Formula[6], the costs of prior examination of NFT digital work trading platforms should correspond to the benefits they receive, and not all risks should be prevented. The boundary of reasonable precautions is that the effect of avoiding infringement can be achieved by lower prevention costs. From that perspective, beyond the reasonable doubt standard is heavier examination duty for the platforms.

In contrast, the general probability standard emphasizes that the rights and obligations of the subject are consistent, and asks NFT digital works trading platforms to charge certain fees both in the creation and transaction of the works as the obligation of the commercial subject and the examination duty of the good administrator on the digital works of the platforms. In the first infringement case, the platform did not notice that the original work contained the author's watermark in the review of *Fat Tiger Vaccination*, which means that the infringement was a plagiarism of minting others' works as NFT works. It is easy for the platform to confirm the infringement, or the infringement can be avoided by asking the minters to provide proofs of the relevant rights authorized by the copyright owners of the works before launching. In fact, apart from the plagiarism in the first NFT infringement case, common copyright infringement also includes that the NFT minters cooperate with the copyright owners, which exceeds the scope of authorization, and they mint the digital works as NFT for sale; or that the original creators agree to transfer the copyright related to the original works when selling the NFT works, or that they breach the contract again to mint and sell specific digital works after having granted the buyer the exclusive right to use the specific digital works. In order to avoid the above infringements by the minters, the platforms can ask the minters to provide relevant rights certificates, original works, scope of authorization, digital works transaction information, etc., to clarify the contents and process of the review, and the demonstration of above evidence equals to the intellectual property screening system established by the platforms. Asking the minters to provide complete authorization documents and proof of rights can prevent copyright infringement, thus making the counterparties to the transaction believe that the minters have the origins of rights to the works. *Guidance on the Trial of Civil Cases of Intellectual Property Rights on E-Commerce Platforms* clearly states that the content of a written statement to exclude the absence of infringement mainly includes true identity information and preliminary evidence of ownership. Certainly, if certain digital works trading platforms do not charge

[6] United States et al. v. Carroll Towing Co., Inc., et al., 159 F.2d 169 (2d. Cir. 1947).

commissions, but only GAS fees, the prior intellectual property examination duty, need not be raised, and they just bear reasonable and necessary duty of care like common network service providers who provide information storage space and electronic commodity platforms, which also reflects the consistency of infringement prevention costs and the platform charging model and the basic principles of the Hand Formula.

Application of Law of Infringement Liability for Violation of Examination Duty by NFT Digital Work Platforms

In the judgement of Fat Tiger Vaccination Case, the court ruled that the defendant, the digital trading platform that assumed responsibility for liability for contributory infringement, immediately removed the relevant NFT infringing works that had not yet been published and compensate for related damages according to Articles 52 and 53 of the *Copyright Law of the People's Republic of China*. The judgement newly added infringement remedy of putting the digital commodities to address blackhole according to the provisions of Article 1195 of *Civil Code*. To sum up, there are three remedies for platforms to stop infringement: deleting infringing digital works, shielding digital works, and disconnecting links (hitting the address blackhole).

Dilemma of Platforms Exercising On-Chain Deletion

Relevant laws and regulations on on-chain deletion: In 2018, Article 17(1) of EU *General Data Protection Regulation* stipulates the right to delete personal information enjoyed by the information agent, and the subject of duty shall be the controller of personal information[7]. The right to erasure is also called the right to be forgotten. According to the semantic interpretation of articles of law, "deletion" is not only the right to which the data subject has legal recourse, but also the obligation of the data controller. The second paragraph stipulates that after the personal information is disclosed by the controller, the latter shall inform the former of the technical measures taken and the relevant steps to delete the information. However, it has not given a clear explanation on the "available technology and implementation costs" mentioned in this article. 2020 US *California Consumer Protection Act* also stipulates that consumers have the right to deletion request, and the right to delete personal information is not clearly defined. China's *Personal Information Protection Law* does not define the "right of on-chain deletion" as well. Some scholars believe that "absolute deletion" realizes the complete disappearance of on-chain data, while relative deletion refers to "the right to cancel personal information related to past events" (Chen, 2022, p. 114). Combined with Article 47(2) of *Personal Information Protection Law*, specific provisions are made on relative deletion in China[8]. This article leaves the same room for legal application as the reference to erasure measures after taking into account "available technology and implementation costs" in EU General Data Protection Regulation. Such ambiguous provision provides the basis for the application of the alternative deletion scheme of "relative deletion" in practice, and also expands the interpretation of "deletion" in the legal provisions. After the NFT digital works is minted and put on the chain, no consensus can be formed among the nodes of the blockchain; thus, the legal effect of deletion cannot be technically operated. It can be concluded that the dilemma of right of on-chain deletion is not only caused by blockchain technology, but also bound by the system in which the legislation does not provide a clear interpretation of the "right of erasure". So some scholars

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[7] Check Article 17(1) of GDPR for details.
[8] Article 47(2) of *Personal Information Protection Law*: If it is technically difficult to delete personal information, the personal information processor shall stop processing except for storing and taking necessary measures.

propose that if the information of infringement cannot be retrieved by other Internet users or cannot be accessed or browsed by any web page or web links, the relative deletion of the information is in fact also achieved. In addition, methods such as disassociation, anonymization, or restriction or forbidden of access are named "alternatives to information deletion" (Wang, 2022; Manteghi, 2021).

Discussion on Hitting the Address Blackhole to Realize Infringement Remedy

The remedy of breaking the links and hitting the address blackhole is to make it impossible for the counterparties who purchased the digital work in question to continue to view the digital work at issue. However, does the remedy actually remove the NFT corresponding to the "digital works" to achieve infringement remedies?

Unbalance between hitting address blackhole and digital commodity property right protection of NFT buyers: In the NFT digital works transaction, the buyer obtains the property right of NFT digital commodities rather than the copyright of the original work corresponding to the digital work. From the perspective of legal effect of transaction, some experts think that NFT transaction is essentially a transfer of property rights of "digital commodities", and propose that as native digital asset, NFT digital collection is a data mapping of the asset and exists independently from the original work. Digital collections have a basis for property right protection. With an expanded interpretation of the property law system and property law, the court in the case argued that hitting the address blackhole completed the destruction of the digital work. On one hand, such remedy fails to consider the interests of the buyer as a subject to the transaction of digital works and it damages the buyer's property rights to possess, use, gain benefits, and dispose the NFT digital commodities purchased. From the perspective of change of right in rem, the buyer acquires the property right of a specific NFT digital commodity once the transaction act is completed through the trading platform. Moreover, the digital commodity is unique because each NFT is unique and cannot be split according to the connotation of non-homogenous transaction of NFT. The behavior of the buyer purchasing and possessing unauthorized NFT digital commodities is the same as buying pirated goods. Punching the address blackhole destructs such infringing goods, and deprives the buyer of the property right to the purchased NFT digital commodity as well. Therefore, other remedies, such as shielding them from the trading platforms, should be used for the remedy of information network dissemination right.

System of "Infringement Without Bearing the Liability for Stopping Infringement" Can Realize Infringement Remedy

By analyzing the above traditional ways of bearing infringement liability, it can be learned that under the blockchain trading environment, NFT digital works trading platform is difficult to remove infringing works on the chain, and punching the address blackhole may damage the bona fide trading counterparty. Are there other ways of bearing infringement liability, which can protect the bona fide counterparties of digital works transactions, and punish the infringement behavior of the infringers and reasonably balance the interests of all parties? The system of "infringement without bearing the liability for stopping infringement" established by judicial precedents in the field of intellectual property rights infringement may offer a feasible solution.

US eBay Case was the first to establish the rule of "infringement without bearing the liability for stopping infringement", and the scope of application was extended from patent cases to copyright and trademark infringement cases. By limiting the use of permanent injunctions, the rule enables the application of "infringement without bearing the liability for stopping infringement" as an exception to intellectual property protection from the perspective of protecting the public interests and balancing the interests of both parties involved in the case[9]. The rule is a huge breakthrough in the way of bearing infringement liability, and limits the rights and interests of intellectual property rights subjects at the same time. In 2009, Article 13 of China's *Opinions of the Supreme People's Court on Several Issues of Intellectual Property Trials Serving the Overall Situation Under the Current Economic Situation* clarifies that the system of confirming non-infringement litigation should be improved, but the article does not explicitly include copyright restrictions. The *Copyright Law of the People's Republic of China* only stipulates that fair use and legal license are defined as the restrictions on the rights of copyright owners, and does not explicitly stipulate the application of the rule of "infringement without bearing the liability for stopping infringement". Then, the judgment of replacing tort liability with compensation emerges in judicial practice.

In the infringement cases of NFT digital works, if the rule of "infringement without bearing the liability for stopping infringement" applies, it can promote the dissemination of NFT digital works on the one hand, and protect the property interests of digital commodities of bona fide counterparties to the transactions based on smart contracts on the other hand. The rights and interests of copyright owners shall be protected by payment of compensation, and materially, the payment of compensation is disguised as payment of license fees. Such tort remedy requires the discretion of the judge depending on the circumstances of the case. With regard to the reasonable amount of compensation, it can be determined according to the actual losses of the obligees, taking into account the type of works involved, the facts and circumstances of the infringement, etc.

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[9] See eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006).