

## The Golden Number Code - On the Importance of Non-Fungible Tokens in Sport

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### I. INTRODUCTION

In addition to the North American National Football League (NFL), both the German<sup>1</sup> both the German<sup>2</sup> German and Spanish football leagues<sup>3</sup> and the newly founded European American Football League (ELF) recently announced their cooperation with so-called NFT platforms.<sup>4</sup> In order to organise the distribution and exchange of digital collectible images in this way. In doing so, they are following an example set by the National Basketball Association (NBA).<sup>5</sup> The sports leagues provide the respective platforms with licensed and subsequently tokenised images of their players or even video clips of individual game scenes, which can then be traded digitally on the platforms with the help of the blockchain.

The following article takes these reports as an opportunity to take a closer look at non-fungible tokens (NFT). In addition to the question of the economic significance, their marketing opportunities, which NFT open up in the sports environment, the related legal issues are discussed. A special focus is on copyright law.

### II. TECHNICAL BACKGROUND OF AN NFT

#### 1. what is an NFT?

The NFT represents a chain of references that assigns a file to a person.

An NFT refers to a "non-exchangeable (digital) asset". An NFT is supposed to "embody" a real - digital or analogue - asset, such as drawings, photos or video clips. In contrast, Fungible Tokens, such as Bitcoin, are exchangeable because it is only the value of the token that matters. Non-fungible tokens, on the other hand, assign a corresponding object or right to the holder of the respective token.<sup>6</sup> This was originally based on the idea of identifying the author of a digital work and thus clearly assigning the digital work to a person. In this case, the token is supposed to represent the work to a certain extent.<sup>7</sup>

#### a. Creation of the NFT

The process of creating a specific token related to an asset, also called minting, is usually based on the following process.<sup>8</sup> It is usually based on the following process - explained here using the example of a collectible picture of a football player:

##### aa. The hash value

The underlying image file of the player's likeness can be uploaded to a private server and the link to the file used to create the token. It seems more preferable, as it is more forgery-proof, to create a so-called hash value from the image file using a special algorithm.<sup>9</sup> In this case, the file must be entered into the InterPlanetary File System, a peer-to-peer network on the Internet, before it is converted.<sup>10</sup> A hash value is nothing more than a unique, cryptographically generated fingerprint.<sup>11</sup>

From a technical point of view, the hash value is unique.<sup>12</sup> Only in this concrete, unchangeable form does the hash value identify the exact file and thus create proof of identity for the file stored in the database.<sup>13</sup>

Subsequently, an accompanying metadata file assigned to this hash value can be created in the so-called JSON format. In addition to the hash value of the original file, this metafile contains metadata such as the name of the player, optionally further information on his person or his club affiliation, the photographer or other information essential for the viewer or acquirer. A hash value is then created from this metafile in the same way.<sup>14</sup>

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## **bb. NFT and Blockchain**

To create the actual token, the hash value of this metafile is then stored together with a smart contract in a block of a blockchain and linked to a user's account, a so-called wallet. The token is ultimately a string of characters that is registered on the blockchain.

A blockchain is a kind of constantly expanding data set consisting of individual blocks.<sup>15</sup> Information is stored in each block, such as all the data of a transaction. Each newly added block is linked to the previous blocks. A blockchain is not "monitored" and verified centrally, but decentrally by an undetermined number of people.<sup>16</sup> This decentralised account management ensures that the transaction history cannot be changed undetected.<sup>17</sup> Each participant in the blockchain needs a wallet for the blockchain.<sup>18</sup>

With creation, the hash value in a block on the blockchain is linked to a smart contract.<sup>19</sup> A smart contract is a computer program that was previously implemented on the blockchain and can no longer be changed.<sup>20</sup> If certain conditions are met, which are checked independently by the computer program, it can itself bring about the sequence previously determined in the program, such as the assignment of the token to a specific holder.<sup>21</sup> First, the smart contract assigns the created token to the wallet of the creator.<sup>22</sup>

The blockchain Ethereum is predominantly used for the creation of NFTs and trading with them, whereby the smart contract programme ERC-721 has become established for the creation of an NFT.<sup>23</sup> Payment on this blockchain is made with the cryptocurrency Ether.

## **b. Trade with NFT**

The smart contract enables the assignment to another person under certain conditions, such as payment of an agreed purchase price (so-called transfer function).<sup>24</sup> This makes NFTs transferable - and tradable. This transfer process is recorded in the blockchain. Every transaction remains traceable in this way.<sup>25</sup>

With the help of the smart contract, it can be further specified that a share of the sale price is automatically transferred each time the token is transferred to the original creator.

As complicated as the technical processes may sound, the practical handling of an NFT is simple. As a rule, special trading platforms are used, such as OpenSea, which is similar to well-known sales platforms like eBay. The technical processes described above run in the background.

## **c. Interim conclusion**

The NFT ultimately represents a chain of references. The token contains the hash value of the metafile, which in turn refers to the hash value of the image file stored in the database and thus the access to the original file. This chain cannot be interrupted or changed without manipulation remaining undetected.<sup>26</sup> The token thus guarantees a unique assignment to a specific file.

The original idea may have been to identify the creator of a digital work of art with the help of the token, but there are doubts about this. The token is not to be equated with the work. Rather, the token is a key to access the metafile with the hash value referring to the digital work.

The blockchain also only secures the unique assignment of a token to a user.

#### **d. Exclusivity of a token?**

The unique assignment of a token to a wallet could suggest an exclusive position of the account holder with regard to the file stored in the database.

However, such exclusivity does not actually exist. Several tokens can be created from the same original file, because each file can be "hashed" countless times. However, due to the newly created hash value, each token is unique.<sup>27</sup>

If exclusivity is nevertheless to be guaranteed with regard to an NFT, this can only be regulated by way of an assurance. In the analogue world, corresponding - also implied - agreements are known, for example, when a certain print run is specified for prints, in which the artist documents to the outside world how many copies of the work will be created and circulated. In the case of an NFT, the creator can guarantee this in the metafile, for example.

## **II. SIGNIFICANCE OF NFT IN SPORT**

### **1. success of NFT**

The trade in NFT is sometimes breathtaking and the prices paid are rationally difficult to comprehend in detail at first glance. For example, for the work of art "Everydays: The First 5000 Days" by Mike Winkelmann alias "Everyday: The First 5000 Days", which is offered as an NFT, the price is

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Beeple offered 69 million US dollars via the well-known auction house Christie's.<sup>28</sup> This is surprising in view of the fact that the original file remains freely accessible to everyone. Attempts are being made to explain NFT's economic success to date with a comparison: Analogue works of art are also exhibited in museums, some of them permanently accessible to the public. It is nevertheless valuable to be able to claim ownership of such a work of art.<sup>29</sup> However, with NFT - as described - unlike analogue artworks, it must be taken into account that the NFT only represents a work and is not the work itself.

### **2. NFT in sport**

NFTs also offer completely new possibilities in the sports environment.

On the one hand, this concerns marketing. The example of the NBA with the NFT platform TopShot, operated in cooperation with Drapper Labs, gives an idea of the potential that lies in this type of sports marketing. This platform is about collecting and trading player images and game scenes. Some individual match scenes are traded for hundreds of thousands or millions of dollars. Sorare

has similar potential, as previous cooperation with various football leagues shows. In total, Sorare and Drapper Labs have been able to generate revenues of one billion US dollars in a very short time.<sup>30</sup>

NFTs expand the possibilities of sports marketing and can even be used for ticketing.

Besides the platforms operated by Sorare and Drapper Labs, there are a number of other NFT platforms related to sports. So far, the MMA sport with the platform operated by Crypto.com and baseball with the platform operated by Candy Digital are known.<sup>31</sup> and baseball with the platform operated by Candy Digital.<sup>32</sup> NASCAR also uses this platform.<sup>33</sup>

In addition, the example of Sorare shows that NFTs can not only be used as purely digital collection images, but can also be the basis for so-called fanatsy sports. This is shown both by Sorare for football and RARIO in relation to cricket.<sup>34</sup> Andrew Wilson, CEO of the publisher EA, therefore sees NFT as the future of his industry.<sup>35</sup> In this sense, the integration of NFT into the FIFA Ultimate Team game mode is conceivable.

However, it is not only digital images that can be marketed via NFT, but all conceivable analogue and digital products. Lionel Messi, for example, works with the Ethernity platform and has been selling merchandising products via NFT under "Messiverse" since August 2021. At its peak, he alone is said to have turned over 3.2 million US dollars within one hour via this platform.<sup>36</sup> NFT-generated digital racehorses or NASCAR racing cars can be traded via the Zed-Run platform and then compete against each other in a virtual competition.<sup>37</sup> Other creative applications of NFT include a Formula 1-licensed, multi-subdivided NFT that, when assembled, replicates a digital race car.<sup>38</sup> Finally, Nike developed a kind of digital patent for digital shoes.<sup>39</sup> In purely factual terms, there are no limits to the "rights" underlying a token. For example, the Croatian tennis player Oleksandra Oliynykova sold the right to have a tattoo applied to her right upper arm via an NFT.<sup>40</sup> One reason for the success of NFT in sports marketing so far can be seen not only in the appeal of speculation with individual collectibles (similar to the analogue world), but also in the fact that it gives fans a way to directly participate in "their sport".<sup>41</sup> On the other hand, it offers sports leagues or creators of NFTs in general the possibility to receive royalties securely and guaranteed via the smart contract for every transaction made.<sup>42</sup> Accordingly, the sports leagues or platform operators do not only generate revenue when they sell an NFT for the first time, but they also participate in every subsequent sale.

But NFT can also be significant outside of pure sports marketing. This applies in particular to the sale of tickets. The band Kings Of Leon, for example, has tokenised tickets to concerts including meet & greet and download of the new album and distributed them via NFT.<sup>43</sup> The Dallas Mavericks basketball team is also considering tokenising tickets.

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via NFT.<sup>44</sup> If you look at how NFT works and how it is distributed with the help of the blockchain, it becomes clear that this could put the brakes on the so-called black market.<sup>45</sup> This is because every transaction remains traceable. In this respect, a sports club could sell a ticket for a match via an NFT and stipulate that only the first holder of the NFT is granted admission. If the first holder were to resell the ticket as an NFT, this would be recorded in the blockchain in a traceable manner. This approach also seems feasible against the background of current case law on ticketing.<sup>46</sup>

### III. LEGAL CLASSIFICATION

## 1. principles

### a. Legal classification of the NFT

As shown, the NFT usually only guarantees a unique assignment of the underlying file. The NFT itself is therefore only a kind of digital certificate.

According to the prevailing opinion, an NFT is not a thing in the sense of § 90 BGB.<sup>47</sup> According to § 2 III of the new eWPG, tokens, if they are bearer bonds according to § 2 III of the new eWPG, are considered things in the sense of § 2 III of the new eWPG. <sup>793</sup> BGB, they are considered things in the sense of § 90 BGB, but NFTs are probably not such bearer bonds.<sup>48</sup> This is because an NFT does not have the characteristics of a deed.<sup>49</sup>

A property-like protection of data is also rejected due to a lack of an unplanned regulatory gap.<sup>50</sup> Whether the denial of property-like protection must also apply to NFT appears questionable, however, against the background of the allocation and exclusion function relevant to property. It is precisely such a function that is to be guaranteed by NFT for digital objects.<sup>51</sup> In any case, there is much to be said dogmatically in favour of seeing NFT as a miscellaneous right within the meaning of § 823 I BGB. This is supposed to result from the right to guarantee the confidentiality and integrity of information technology systems, which is inherent in the general right of personality.<sup>52</sup>

### b. Transfer of the NFT

Based on the classification as another right, the sale of an NFT is a purchase of rights within the meaning of § 453 BGB<sup>53</sup> to which, according to the prevailing opinion, § 413 BGB applies.<sup>54</sup> Even if the transfer of the token by way of sale is therefore primarily a matter of the right to the token<sup>55</sup> it should nevertheless be decisive for the acquirer of the token which rights he has ultimately acquired in the object to which the token refers.<sup>56</sup> Since the token - as described - ultimately only represents a technical assignment to this object, this legal position cannot be determined solely from the ownership of the token.

The sale of an NFT constitutes a purchase of rights within the meaning of § 453 BGB, to which § 413 BGB should apply

Which rights accompany the acquisition of the token in the object must therefore be regulated separately by legal transaction. Such a regulation can be established by means of terms and conditions that are set out on a token sales platform on which the buyer and seller have registered in each case.<sup>57</sup> These can also be documented in the metafile when the NFT is created. The latter has the advantage that the rights to the referred object are inseparably linked to the token. It should be noted, however, that the transferred rights must actually exist. A bona fide acquisition of rights within the meaning of § 413 BGB is generally not possible.<sup>58</sup>

## 2. NFT from a copyright perspective

NFT is not a copyrighted work, but may affect rights of use of an existing work or photograph. From a copyright point of view, two problem areas arise with NFTs: On the one hand, the creation of an NFT is to be assessed under copyright law, and on the other hand, the sale of NFTs is to be classified under copyright law.

### a. Creation of the NFT from a copyright perspective

#### aa. NFT is not a copyrighted work

The first question is whether an NFT itself qualifies as a protected work within the meaning of Section 2 I No. 1 in conjunction with Section 69a UrhG. § 69a UrhG. According to Section 69a III UrhG, computer programs are protected if they are individual works that are the result of the author's own intellectual creation. This must be an intellectual creation created by a human being, not a machine, which originates from the creator's world of thoughts and feelings and is not a product of chance.<sup>59</sup> NFT and the previously created hash values are created independently by computer programmes, but do not represent a creation themselves. They are data sets that are created by computer programmes.<sup>60</sup> As such, the NFT probably does not enjoy copyright protection.<sup>61</sup>

### **bb. Creation of an NFT from a copyright perspective**

Collective pictures, in the form of photographs of the players, are in any case to be qualified as a photograph and are therefore protected by the related right of protection of photographs pursuant to section 72 UrhG. At

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according to artistic treatment, these may also be considered as a work in their own right pursuant to § 2 I no. 4 UrhG (German Copyright Act).<sup>62</sup> If the token refers through its chain of references to a copyrighted work or a photograph as defined in § 72 UrhG, which has been placed in digital form in the InterPlanetary File System, the question arises whether the creation of the NFT with a corresponding reference constitutes an act relevant under copyright law. Acts relevant under copyright law in the creation of an NFT include reproduction pursuant to § 16 UrhG or encroachment on the rights of communication to the public pursuant to § 15 II, III UrhG can be considered.

A reproduction within the meaning of Section 16 UrhG of the underlying work or photograph would be affirmed if, with the creation of an NFT, a physical determination of the work took place which is suitable to make the work directly or indirectly perceptible to the human senses in any way.<sup>63</sup> As shown, this is not the case with the creation of the token as such. A hash value is generated that is only required to verify the work. However, the work or photograph itself is not duplicated, since the generated character string does not make the work perceptible to the human sense.<sup>64</sup>

However, the prior uploading of the file to which the NFT then refers to a database located on the Internet - such as the InterPlanetary File System - may constitute duplication.<sup>65</sup>

Whether there is an encroachment on the right of communication to the public under sec. 15 II, III UrhG, and specifically in the right of making available to the public from § 15 II p. 2 no. 219a UrhG, by the creation of an NFT must be considered in a differentiated manner. The criterion of reproduction is met if the user is given direct access to the work or photograph. The criterion of publicity can be fulfilled by two conditions. On the one hand, it is based on an undefined circle of an undefined number of persons. On the other hand, it is based on whether the reproduction reaches a new audience or uses a new technical process.<sup>66</sup> In the case of linking to a protected work already posted on the internet, the criterion of publicity cannot be assumed in principle, since the audience remains the same.<sup>67</sup> However, different standards must be applied if the work to which the link is made is made available without the permission of the author and thus unlawfully. In this case, the criterion of publicity must be assumed, since the author did not want to make his work accessible, or at least not to the group of people who now have access to the work due to the unlawful provision and also linking to it.<sup>68</sup> The creation of an NFT is essentially the same as the creation of a

hyperlink, because the NFT is ultimately also a chain of references. Consequently, the creation of an NFT does not infringe the right of communication to the public under Sections II, III UrhG. 15 II, III UrhG, as long as the linked underlying file was made available with the permission of the author or owner of the photographic property right. The right of communication to the public, in particular the right of making available to the public, should therefore not be affected when creating the NFT. Thus, although the creation of the NFT as such is not a copyright-relevant act, the preparatory acts for the creation of the NFT may constitute an interference with the exploitation rights of the author or photographer.

### **b. Sale of the NFT from a copyright perspective**

Against this background, two copyright issues arise for the trade in NFT. On the one hand, the sale of the NFT, insofar as it refers to a work or photograph, without the prior permission of the author or holder of the photograph's copyright may constitute an infringement of the exploitation rights; on the other hand, it is questionable which rights of use the purchaser of the token receives.

#### **aa. Potential copyright infringements when reselling an NFT**

The sale of the NFT is essentially a transfer of the assignment. However, this does not affect the file behind the token.

In contrast to acts during the creation of the NFT, the sale of the work or photograph on which the NFT is based does not constitute a reproduction within the meaning of § 16 UrhG.<sup>69</sup> Taking into account European case law on the InfoSoc Directive, a physical object would have to be the basis.<sup>70</sup> However, this is not the case with NFT. Distribution within the meaning of § 17 UrhG is therefore also ruled out in the case of the sale of an NFT.<sup>71</sup> For the same reasons, the resale right under § 26 UrhG, according to which the author of a work must participate in the further proceeds of sale, does not apply to NFT.<sup>72</sup>

The right of communication to the public under § 15 II, III UrhG is not affected by the resale of the NFT.

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not affected. The mere change of ownership does not make the file available to a new audience or use any technical means other than the original link to the file created when the NFT was created. Resale does not affect the link.<sup>73</sup>

#### **bb. Rights of the purchaser**

Against this background, the question arises as to which rights the purchaser of an NFT acquires. The sale of the NFT has no effect on copyrights or related rights to the work or photograph behind the NFT. The NFT merely refers to a file behind the NFT and can thus signify an attribution to a work or photograph. However, the NFT is not to be equated with the work or photograph.

However, if any rights of use in the work or photograph referred to in the NFT are to be granted upon resale of the NFT, the following applies: In copyright law, it is generally the case that a bona fide acquisition of intangible property rights from the non-entitled party is excluded.<sup>74</sup> Furthermore, according to the doctrine of the purpose of transfer (cf. sec. 31 V UrhG), no more rights should be granted than arise from the contract.<sup>75</sup> In principle, rights of use may also be granted tacitly in a contract, but only if, in view of the overall circumstances, the objective content of the declaration

unequivocally states that the declarant intends to dispose of his copyright in such a way that he grants a third party a specific right of use.<sup>76</sup> In this respect, the rights of use granted must result from the contract.<sup>77</sup> However, the sale of an NFT is only the transfer of the assignment.

Therefore, if rights of use are to be granted in the work or photograph to which the NFT refers, the exact designation and scope of the rights of use granted in the work to which the NFT refers must be clearly and unambiguously recorded - preferably in the metafile.

#### **d. Conclusion**

NFT offer a multitude of new possibilities, especially for sport. This applies in particular to new marketing opportunities. Especially against the background of automatic participation in the respective resale - if this is stipulated in the smart contract - the creation and trading of NFTs appear particularly attractive for stakeholders in sport. Staggering revenues can already be generated with NFTs - NFTs are therefore a truly golden string on the blockchain.

NFT pose new challenges for the legal system. This concerns copyright law in particular.<sup>78</sup> However, trade in NFT in the form of digital collective images can only take place in a legally secure manner if both the rights holder and the acquirer know the exact scope and content of the acquired rights. Against the background of existing uncertainties, it should be clarified both that the creation of the NFT does not conflict with any rights of third parties and, secondly, as far as copyright-protected works are concerned, there should be no uncertainties about any rights of use in this work. This usually requires a separate agreement, whereby the definition of the respective scope of rights in the metafile is preferable.

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- <sup>7</sup> Lantwin, CIP Report 2021, 66, 66.
- <sup>8</sup> Werner, The Tokenisation of the Economy from a Legal Perspective, p. 18f.
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<sup>59</sup> Wandtke/Bullinger/Grützmaier, UrhG, Section 69a, marginal no. 34.

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<sup>61</sup> cf. also comments in: Hoeren/Prinz, CR 2021, 565, 570.

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<sup>66</sup> Lantwin, CIPReport 2021, 66, 68; BeckOK IT-Recht/Paul, § 16 UrhG, marginal no. 6.

<sup>67</sup> Schricker/Loewenheim/v. Ungern-Sternberg, UrhG § 15, marginal no. 77ff; Dreier/Schulze/Dreier, UrhG, § 15, marginal no. 39 and ECJ, BeckRS 2014, 80413, para. 28 - Svensson.

<sup>68</sup> Dreier/Schulze/Dreier, UrhG, Section 19a, marginal no. 6 and Section 15, marginal no. 39; ECJ GRUR 2016, 1152 - GS Media.

<sup>69</sup> Heine/Stang, MMR 2021, 755, 759.

<sup>70</sup> ECJ GRUR 2020, 179, para. 39f. - Tom Kabinet; Heine/Stang, MMR 2021, 755, 759.

<sup>71</sup> ECJ GRUR 2020, 179, para. 39f. - Tom Kabinet; Heine/Stang, MMR 2021, 755, 759.

<sup>72</sup> Cf. Heine/Stang, MMR 2021, 755, 759 f.

<sup>73</sup> Heine/Stang, MMR 2021, 755, 758.

<sup>74</sup> Schricker/Loewenheim/Ohly, UrhG, § 31, marginal no. 25.

<sup>75</sup> BGH, GRUR 1984, 119, 121 - Synchronisation speaker.

<sup>76</sup> BGH, GRUR 2010, 628 marginal no. 29 - Preview images; Dreier/Schulze/Schulze, UrhG, Section 26, marginal no. 22.

<sup>77</sup> However, Hoeren/Prinz, CR 2021, 565, 570; see also Kaulartz/Schmid, CB 2021, 298, 301.

78 In addition to copyright law, securities, tax and data protection law are also facing new challenges, see: Haertel, *SpoPrax* 2021, 253, 257; Rapp/Bongers, *DStR* 2021, 2178. Hoeren/Prinz, *CR* 2021, 565, 572; Kaulartz/Schmid, *CB* 2021, 298, 301f.; Tobler, *DSRITB* 2021, 251, 255f.