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**NFTs and Intellectual Property Rights  
in the Metaverse**

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# CHAPTER 1

## **Section 1: Introduction**

- 1.1 A categorization of NFTs and their interaction with the Metaverse
- 1.2 The functioning of the blockchain
- 1.3 The functioning of Smart Contracts
- 1.4 Buyer's and seller's rights

### 1.1 A categorization of NFTs and their interaction with the Metaverse

NFTs can be defined as digital certificates that attest the authenticity of a virtual object and in some cases, also of actual works of art. Moreover, NFTs are cryptographic tokens stored on a blockchain; they are non-fungible, meaning they cannot be replaced or changed. For example, a bitcoin is a fungible token as it can be exchanged with another token without changing the object of the trade. However, as NFTs are non-fungible and, as every token has unique characteristics, they are inherently non-interchangeable<sup>1</sup>. NFTs have specific features: they are directly linked to a blockchain address and are associated with a unique owner. Moreover, the pieces of information linked to every NFT are publicly accessible on blockchain platforms and therefore are easily verifiable.<sup>2</sup>

NFTs are highly innovative as they offer the possibility to turn basically anything that can be digitalized into an NFT. Moreover, NFTs trade is linked to cryptocurrencies as, in order to be able to purchase an NFT, the buyer needs to pay in a digital currency. The blockchain is a core element when

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<sup>1</sup> Clifford Chance, 'Non-Fungible Tokens: The Global Legal Impact' (June 2021)

<<https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2021/06/non-fungible-tokens-the-global-legal-impact.pdf>> accessed 17 May 2022, 2

<sup>2</sup> Ibid 1

dealing with NFTs as they allow such assets to perform their intended functions<sup>3</sup>. The process of acquisition of an NFT is highly innovative. Indeed, when someone buys an NFT linked to a work of art, he would not get a physical copy of such work but a certificate of ownership of the asset he purchased. Such certificate is recorded in the blockchain so that the buyer will be associated with such work as the owner, making this property tamper-proof. NFTs are then particularly original as they guarantee the authenticity of the product that can be bought through cryptocurrencies. However, the peculiarity regarding NFT is that the buyer only owns the original digital artwork while, in most cases, the creator of such NFT is still entitled to copyright and reproductions rights – which means that they can still sell prints and reproductions of the work of art they already sold. Therefore - in the case where the copyright is not transferred with the asset- when purchasing an NFT, you will not receive a copy of the work but only a series of numbers contained in the metadata file associated with a particular asset<sup>4</sup>. Indeed, purchasing an NFT is basically owning «a signed receipt of a work, where the ownership is not of the work itself, but ownership of the receipt». <sup>5</sup>

There are several types of NFTs that exist nowadays, from artworks, collectibles, and music to video games assets and memes. However, the purpose of this thesis is to focus on three types: artworks, music and sport-related NFTs, and to analyze their characteristics in comparison with existing copyright laws. Moreover, the categorization of art-related NFTs also entails a distinction between NFTs that are related to an already existing digital/analogue work of art that is therefore minted as an NFT; NFTs related to a work of art that is created with the purpose of being linked to an NFT and NFTs that are directly created/minted as art.

Although there is still no universally accepted definition for the "metaverse"<sup>6</sup>, in a recent paper the European Commission defined the metaverse as «an immersive and constant virtual 3D world where people interact by means of an avatar to carry out a wide range of activities. Such activities can range from leisure and gaming to professional and commercial interactions, financial transactions or even health interventions such as surgery. While the exact scope and impact of the metaverse on society and on the economy is still unknown, it can already be seen that the metaverse will open up a range of opportunities but also a number of risks in a variety of policy areas. »<sup>7</sup> Therefore, such a definition

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<sup>3</sup> Bodo, Giannopoulou, Mezei, Quintais, “The Rise of NFTS: These aren’t the droids your’re looking for”, European Intellectual Property Law Review, (January 2022), 7

<sup>4</sup> Andres Guadamuz “The treachery of images: non-fungible tokens and copyright”, Journal of Intellectual Property Law & Practice, 2021, 1371

<sup>5</sup> Ibid, 1371

<sup>6</sup> “The Metaverse: what are the legal implications?”, Clifford Chance, (February 2022), <<https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2022/02/the-metaverse-what-are-the-legal-implications.pdf>>

<sup>7</sup> Madiaga, Car, Niestadt, Van de Pol, “Metaverse Opportunities, risks and policy implications”, European Parliamentary Research Service, (June 2022) <[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

allows us to understand the possible magnitude that the metaverse can reach. Moreover, the U.S Congressional Research Service provided another definition of the metaverse, described as «the concept of an immersive and persistent virtual world where users can communicate and interact with other users and the surrounding environment and engage in social activities, similar to interactions in the physical world.»<sup>8</sup> The metaverse is also characterized by the fact that it does not refer to a specific technology but rather a new way of interacting with online technologies for users. The metaverse represents a concrete and valid opportunity to completely reshape the way the internet is used. To determine what impacts the metaverse has and could have on our society, it is relevant to examine its four main technical characteristics:<sup>9</sup>

- Realism: which allows users to emotionally get involved in the virtual world
- Ubiquity: this allows users to have access to the virtual world only by means of a virtual identity and a digital device
- Interoperability: that allows various and distinct platforms to exchange a wide range of information between them and interact
- Scalability: meaning that the technical architecture of the metaverse is sufficiently powerful to allow a wide number of users to use it while not compromising their experience or the efficiency of such a system

While interacting with the metaverse, users would be immersed in a peculiar experience that is supported through the use of various technologies such as virtual reality, «which is a three-dimensional online environment that can be entered by using a dedicated headset connected to a computer or game console»<sup>10</sup>, as well as augmented reality that «shows the real world enhanced by computer-generated items, such as graphics».<sup>11</sup> Moreover, the metaverse also interacts with innovative tools such as artificial intelligence as well as the Internet of Things (IoT) that ensure that the communications carried out are flawless.

In the metaverse, users are granted the possibility to use create a virtual avatar that represents them. Such a possibility differentiates the metaverse from the two-dimensional (2D) online environment. Indeed, the metaverse services present three key characteristics that differentiate them from the two-

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<sup>8</sup> “The Metaverse: Concepts and Issues for Congress”, (26 August 2022), U.S Congressional Research Service <<https://crsreports.congress.gov/product/pdf/R/R47224> >

<sup>9</sup> Madiaga, Car, Niestadt, Van de Pol, “Metaverse Opportunities, risks and policy implications”, European Parliamentary Research Service, (June 2022) <[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

<sup>10</sup> “The Metaverse: Concepts and Issues for Congress”, (26 August 2022), U.S Congressional Research Service <<https://crsreports.congress.gov/product/pdf/R/R47224> >

<sup>11</sup> Ibid 1

dimensional online applications: « (1) an immersive, three dimensional (3D) user experience; (2) real-time, persistent network access; and (3) interoperability across networked platforms. »<sup>12</sup>

Once provided a definition of the Metaverse, for the purpose of this thesis, it is worth determining how it interacts with NFTs. The main use of NFTs carried out in the metaverse is to support financial transactions.<sup>13</sup> Indeed, in the metaverse, commercial transactions are mainly expected to be promoted through the use of cryptocurrencies -such as bitcoin or Ethereum- and NFTs would be used to provide proof of ownership for such transactions. The structure of NFTs<sup>14</sup> is shaped in a way that every transaction that is related to a specific NFT is registered in the blockchain and can't be deleted or altered.<sup>15</sup>

Within the European Union, there is no specific regulation for NFTs.<sup>16</sup> However, two main legislations are relevant and can be applicable to such assets. The first one is the Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937), (MiCA). Such Regulation applies to certain types of crypto-assets, that qualify “digital representation of value or rights that can be electronically transmitted and stored using distributed ledger technology or similar technology”<sup>17</sup>. The definition provided by MiCA is very broad and aimed to include different types of assets such as utility tokens, e-money tokens, and asset-referenced tokens.<sup>18</sup> Such broadness of the Regulation's scope is specified in Recital 8 “Crypto-assets’ and ‘distributed ledger technology should therefore be defined as widely as possible to capture all types of crypto-assets which currently fall outside the scope of Union legislation on financial services.”

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<sup>12</sup> Ibid 2

<sup>13</sup> Madiaga, Car, Niestadt, Van de Pol, “Metaverse Opportunities, risks and policy implications”, European Parliamentary Research Service, (June 2022) <

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

<sup>14</sup> See 1.4

<sup>15</sup> Madiaga, Car, Niestadt, Van de Pol, “Metaverse Opportunities, risks and policy implications”, European Parliamentary Research Service, (June 2022) <

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

<sup>16</sup> Di Bernardino, Chomczyk Penedo, Ellul, Ferreira, Goldbeck, Herian, Siadat, Siedler “NFT - Legal Token Classification”, EU Blockchain Observatory and Forum NFT Reports, (24 July 2021), 5

<sup>17</sup> Article 3(2) of the Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937, (COM (2020) 593 final)

<sup>18</sup> Di Bernardino, Chomczyk Penedo, Ellul, Ferreira, Goldbeck, Herian, Siadat, Siedler “NFT - Legal Token Classification”, EU Blockchain Observatory and Forum NFT Reports, (24 July 2021), 4

Moreover, one could think that MiCA also regulates NFTs as they perfectly fit into the definition of Article 3(2).<sup>19</sup> However, the first version of MiCA expressly excluded NFTs from its scope<sup>20</sup>. In the last version, the legislator specifies that NFTs could fit within the scope of the Regulation only if to provide their holder with some specific financial rights (such as profit rights)<sup>21</sup> as they could therefore fall within the definition of security tokens. However, the structure of NFTs limits their capacity to be defined as financial instruments as they are not interchangeable. The specificity of NFTs is their scarcity and uniqueness, making every NFT a unique piece of code representing a specific work of art. NFTs are non-fungible, and such a characteristic limits the extent to which they can be seen as financial instruments.<sup>22</sup>

The other EU legislation that could regulate NFTs is Directive 2014/65/EU on markets in financial instruments (MiFID II). In the case where the NFTs would fall within the scope of MiFID II, a whole set of EU financial regulations would apply to service providers and issuers of NFTs, such as the Prospectus Regulation, Market Abuse Regulation, Transparency Directive, the Settlement Finality Directive, the Market Abuse Directive, or the Short Selling Regulation.<sup>23</sup> Article 4(15) of MiFID II defines financial instruments as “those instruments specified in Section C of Annex I”, that provides a list of 11 various financial instruments<sup>24</sup> that includes “transferable securities”, “money-market instruments”, “units in collective investment undertakings” among others. However, such a definition also depends on how every European Member State will transpose such Regulation into their own national law and, therefore, subject to various interpretations.<sup>25</sup>

NFTs are more likely to fall within the definition of “transferable securities”, defined in Article 4(44) as “those classes of securities which are negotiable on the capital market, with the exception of instruments of payment, such as:

- (a) shares in companies and other securities equivalent to shares in companies, partnerships or other entities, and depositary receipts in respect of shares;
- (b) bonds or other forms of securitised debt, including depositary receipts in respect of such securities;

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<sup>19</sup> Martin Sas, “NFTs excluded from MICA: A freeport for crypto pirates?”, CiTiP Blog, Center for IT & IP Law, <<https://www.law.kuleuven.be/citip/blog/nfts-excluded-from-mica-a-freeport-for-crypto-pirates/>>, accessed 9 June 2022

<sup>20</sup> John Salmon, Leopold von Gerlach, ‘Non-fungible tokens: NFTs and the silence of the EU legislator’, JD Supra, (28 October 2021), <https://www.jdsupra.com/legalnews/non-fungible-tokens-nfts-and-the-2780299/>, accessed 25 May 2022

<sup>21</sup> Article 39 and 40, COM (2020), 593 final

<sup>22</sup> Di Bernardino, Chomczyk Penedo, Ellul, Ferreira, Goldbeck, Herian, Siadat, Siedler “NFT - Legal Token Classification”, EU Blockchain Observatory and Forum NFT Reports, (24 July 2021), 4

<sup>23</sup> Ibid 1, 5

<sup>24</sup> Annex 1, C of the Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU Text with EEA relevance

<sup>25</sup> Di Bernardino, Chomczyk Penedo, Ellul, Ferreira, Goldbeck, Herian, Siadat, Siedler “NFT - Legal Token Classification”, EU Blockchain Observatory and Forum NFT Reports, (24 July 2021), 5



(c) any other securities giving the right to acquire or sell any such transferable securities or giving rise to a cash settlement determined by reference to transferable securities, currencies, interest rates or yields, commodities or other indices or measures”.<sup>26</sup>

According to Article 4(44), transferable securities belong to the category of financial instruments as they can be compared to “shares in companies” that can be negotiated on markets and so, therefore, can be sold, bought, and traded on the market.<sup>27</sup>

In order to determine if NFTs could fall within the MiFID II, Article 4 (44) should be read in conjunction with Article 2(a) of the Prospectus Regulation which defines securities as “transferable securities as defined in point (44) of Article 4(1) of Directive 2014/65/EU with the exception of money market instruments as defined in point (17) of Article 4(1) of Directive 2014/65/EU, having a maturity of less than 12 months”.<sup>28</sup>

The combination of these two definitions excludes NFTs from the scope of MiFID II as they do not belong to a class of such securities. Indeed, although within the EU there is no specific definition of what a class of securities is, “the common interpretations of this term imply fungibility, or interchangeability or replicability”.<sup>29</sup> Therefore, NFTs are excluded from the scope of MiFID II because their non-fungibility cannot let them be included in the category of transferable securities.

However fractional NFTs (F-NFTs) could fall within the scope of MiFID II. Indeed, such types of NFTs allow the fractionalization of an NFT, which ownership could therefore be shared among various users.<sup>30</sup> Such types of NFTs are fungible<sup>31</sup> and therefore they could be defined as financial instruments and fall within the scope of MiFID II.

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<sup>26</sup> Article 4 (44) of the Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU Text with EEA relevance

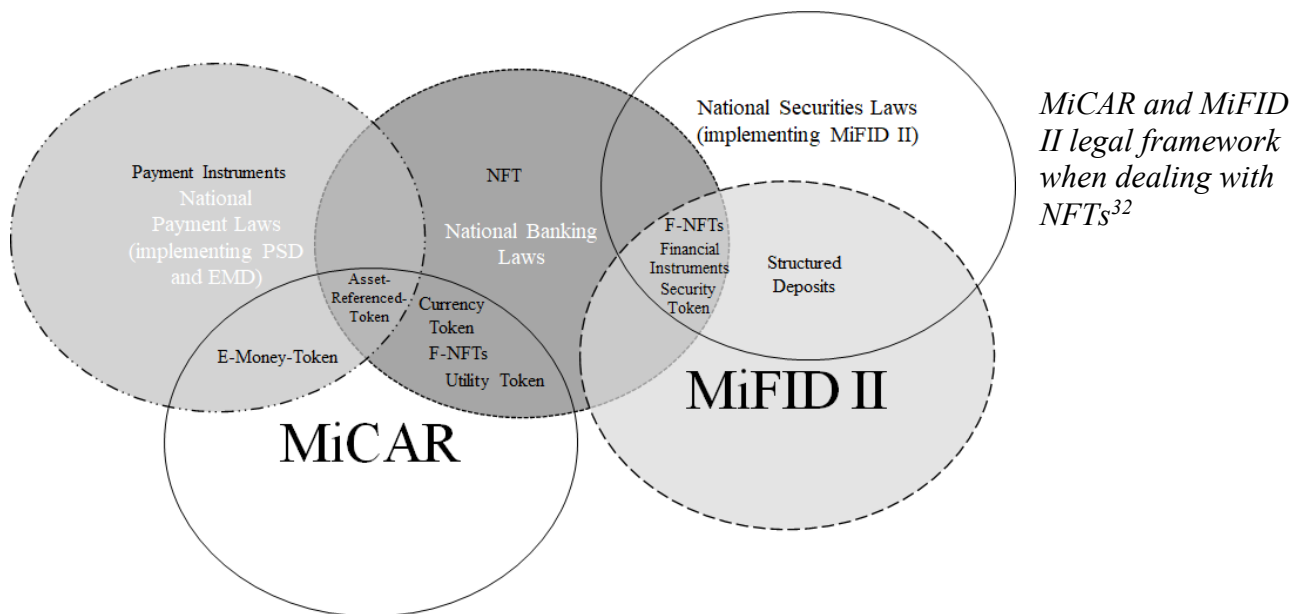
<sup>27</sup> Michael Juul Rugaard, “The uncertain regulatory status of NFTs”, NFT by the Tokenizer, (December 1 2021), <<https://thetokenizer.io/NFT/the-uncertain-regulatory-status-of-nfts/>>, accessed 10 June 2022

<sup>28</sup> Article 2(a) of the Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Directive 2003/71/EC Text with EEA relevance

<sup>29</sup> Di Bernardino, Chomczyk Penedo, Ellul, Ferreira, Goldbeck, Herian, Siadat, Siedler “NFT - Legal Token Classification”, EU Blockchain Observatory and Forum NFT Reports, (24 July 2021), 6

<sup>30</sup> Andrei-Drăgăș Popescu, “Non-Fungible Tokens (NFT) - Innovation beyond the craze”, Proceedings of Engineering & Technology Journal, (2021), 29

<sup>31</sup> Di Bernardino, Chomczyk Penedo, Ellul, Ferreira, Goldbeck, Herian, Siadat, Siedler “NFT - Legal Token Classification”, EU Blockchain Observatory and Forum NFT Reports, (24 July 2021), 6



## 1.2 The functioning of the blockchain

The blockchain can be defined as “a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network”.<sup>33</sup> Moreover, in the blockchain, “data is set out and built up in successive blocks, where each new block of data verifies the content of the previous block”.<sup>34</sup> This specific characteristic makes blockchain tamper-evident and immutable as every block is strictly connected and verified.<sup>35</sup> Blockchain allows the record of transactions that can refer both to tangible assets and intangible assets. For the purpose of this thesis, we will focus on the blockchain, which refers to intangible assets and especially deals with NFTs. Another fundamental characteristic of the blockchain is that they enable the record of every transaction related to specific NFTs. Indeed, the blockchain structure allows every user to check the origin and history of the NFTs they store, thus facilitating the authenticity procedures that every work of art needs to comply with.

There can be two types of blockchains: public and private. Public blockchains are the most common ones -such as Ethereum-. Their structure allows every user to join the blockchain, without the need

<sup>32</sup> Ibid 1, 5

<sup>33</sup> IBM, ‘What is blockchain technology?’ (IBM) <<https://www.ibm.com/topics/what-is-blockchain>> accessed 18 May 2022.

<sup>34</sup> Clifford Chance, ‘Non-Fungible Tokens: The Global Legal Impact’ (June 2021) <<https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2021/06/non-fungible-tokens-the-global-legal-impact.pdf>> accessed 17 May 2022, 3

<sup>35</sup> Ibid 1

to disclose their identity or to agree to any terms of use.<sup>36</sup> The only prerequisite to participating in public blockchains is to download the relevant software necessary for their use. Such openness of public blockchains is shown also by the fact that every user can participate in the consensus process – meaning that they can decide what types of transactions and blocks to include in the chain.<sup>37</sup> Furthermore, a specific characteristic of such blockchains is that they are decentralized and neither controlled nor managed by a specific entity.<sup>38</sup> They are open and neutral toward users.

In opposition, private blockchains require users to show their identity, therefore the public's blockchain characteristic of anonymity is here lost. In order to participate in the private blockchain, users need to comply with specific requirements and/or be approved by the administrator.<sup>39</sup> Furthermore, private blockchains can restrict the use and transactions that one can do in the blockchain. Therefore, private blockchains allow confidentiality and transparency<sup>40</sup> but to do so they restrain users' freedom.

Blockchains have some typical characteristics that help to define their scope. Indeed, the blockchain is typically a distributed ledger technology<sup>41</sup>, meaning that every participant of the network can access the transactions that are recorded on the blockchain. Moreover, once recorded, transactions are immutable and can't be changed by users. However, if an error occurred during the process of registration, then a new transaction needs to be recorded in order to correct such a mistake and both transactions will then be visible on the blockchain. This *immutable* characteristic of the blockchain rise several issues as artists can register potentially just about any type of digitalized art on a blockchain. For example, this happened when Terrence Eden registered, on a Bitcoin Blockchain named *Verisart*, the Mona Lisa as his original work of art<sup>42</sup> -and not Leonardo da Vinci. As the blockchain is immutable, the proof that Terrence Eden created the Mona Lisa will be forever registered. As, “on the collector's side, purchasing an NFT means acquiring a certificate of authenticity that cannot be destroyed, lost or modified”<sup>43</sup>, the minting of an NFT that does not respect

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<sup>36</sup> Eliza Mik, “Blockchains: A Technology for Decentralized Marketplaces”, in *Impact of Technology on International Contract Law: Smart Contracts and Blockchain Technologies*, Forthcoming, (10 September 2018), 163

<sup>37</sup> *Ibid* 1, 163

<sup>38</sup> *Ibid* 2, 163

<sup>39</sup> *Ibid* 3, 164

<sup>40</sup> *Ibid* 4, 164

<sup>41</sup> Clifford Chance, ‘Non-Fungible Tokens: The Global Legal Impact’ (June 2021)

<<https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2021/06/non-fungible-tokens-the-global-legal-impact.pdf>> accessed 17 May 2022, 3

<sup>42</sup> Terrence Eden Blog < <https://shkspr.mobi/blog/>>, accessed 28 April 2022

<sup>43</sup> Louise Carron “ABCs of NFTs, Art and Law “, *Entertainment, Arts and Sports Law Journal*, (2021), 13

copyright law and result in being a copy of a work of art from another artist, poses serious legal considerations.

The blockchain is composed of a series of blocks of data and information that it stores in encrypted and chronological form. The blockchain has been described as having six main characteristics: decentralization, detrusting, transparency, traceability, anonymity, and credibility.<sup>44</sup> The most relevant characteristic of the blockchain is that it allows anonymity for its users. This is possible through the use of asymmetric encryption. Such encryption is used in two 2 ways: for data encryption and digital signatures.<sup>45</sup> By using data encryption, the blockchain secures the process of data transactions and reduces the risk of losing data during such a process.<sup>46</sup> Moreover, digital signatures ensure the secure transmission of data over the network as it allows the association of every data with the signatory and therefore identifies each transaction with a particular subject. However, it is not necessary to display the identity of every participant in the blockchain. Such a feature is highly controversial as on the one it provides anonymity to every participant, but on the other hand, it could indirectly support illegal activities.<sup>47</sup>

Lastly, blockchain rely on a specific type of rules called *smart contracts* that have the role of managing stored transactions. The leading blockchain platform where NFTs are stored is Ethereum. This uses the standard ECR-721 type of smart contract to register NFTs. The peculiarity of such type of contracts is that they are executed automatically when the payment related to the transaction is made.

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<sup>44</sup> Lu Yang, “The blockchain: State-of-the-art and research challenges”, *Journal of Industrial Information Integration*, (10 April 2019), 82

<sup>45</sup> *Ibid* 1, 83

<sup>46</sup> *Ibid* 2, 84

<sup>47</sup> *Ibid* 3, 83

### 1.3 The functioning of Smart Contracts

*Smart contracts* can be defined as “digital contracts where the terms of the agreement are written in the code and are embedded within the purchase tokens”.<sup>48</sup> Moreover, smart contracts are structured to follow some pre-defined set of commands, and when these are fulfilled, the contract will operate automatically. Such a mechanism reduces the need for parties to trust each other as the contract conditions will automatically perform upon a triggering event. However, such an innovative way of functioning is raising several concerns about the particularity of developing the terms and concerns and about the bindingness of such contracts. The standard ECR-721 is linked to unique collectibles that present unique characteristics and are non-fungible. The registration process linked to ECR-721 involves some technicalities but is in reality, very easy. Indeed, each ERC-721 NFT needs the creation of a *tokenurl* linked to the unique NFT. This *tokenurl* is associated with an external link called *JSON file*, which in turn is stored on an external server. The *JSON file* contains the metadata information that describes the NFT.<sup>49</sup> A typical ERC-721 will look like that:

```
"title": "Asset Metadata",
"properties": {
  "name": {
    "description": "Identifies the asset to which this NFT represents"
  },
  "description": {
    "description": "Describes the asset to which this NFT represents"
  },
  "image": {
    "description": "A URI pointing to a resource with mime type image/*
representing the asset to which this NFT represents. Consider making
any images at a width between 320 and 1080 pixels and aspect ratio
between 1.91:1 and 4:5 inclusive."
```

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<sup>48</sup> F. Liddell, “Disrupting the Art Museum Now !’: Responding to the NFT Social Experiment’, 16 March 2021, blogpost, < <https://www.culturalpractice.org/article/disrupting-the-art-museum-now-responding-to-the-nft-social-experiment/>> accessed 6 April 2022

<sup>49</sup> Khun, ‘NFT misconception: JPEG aren't on the Blockchain’, blogpost, < <https://erickhun.com/posts/nft-misconception-image-arent-on-blockchains/>> , accessed 5 April 2022

<sup>50</sup> Ibid 1

We can notice the “image” description in the ERC-721 standard model. This is simply a link to an *url* where you can find the image. According to Anil Dash, “when someone buys an NFT, they’re not buying the actual digital artwork; they’re buying a link to it. And worse, they’re buying a link that, in many cases, lives on the website of a new start-up that’s likely to fail within a few years.”<sup>51</sup> This phenomenon is used mainly by the most famous NFTs’ work of art -such as Crypto Kitty or Crypto Punks- and is particularly tricky towards potential buyers who are often unaware that they aren’t buying an image stored on the blockchain but only a *url*. The threat consists in the fact that *url* links can quickly expire or mute, and therefore, buyers can potentially lose their purchase -and all the values and rights linked to it. Moreover, if the *url* shut down, it would be tricky -not to say impossible- for buyers to prove they own such NFT.

Understanding the minting process is extremely important when dealing with copyright law and NFTs. Indeed, the main issue regarding NFT is how they interact with copyright law. Due to the novelty of NFTs, there is still a lack of regulation for copyright law specifically related to non-fungible tokens. We should then wonder how traditional copyright law concepts can apply to NFTs. Such a branch of the law has been ignored for a long time when dealing with NFTs. Nonetheless, copyright law applies even in the decentralized world where NFTs belong. Copyright law protects authorship of original works that represent a “conscious modification of reality”<sup>52</sup>. However, to be protected, such works need to be fixed by their author in concrete form of expressions. Copyright law covers a variety of works, including illustrations, paintings, photographs, sound recordings, movies, and computer programs...<sup>53</sup> Although NFTs aren’t included in such a list, they can be considered as a new form of expression that needs to comply with copyright law. However, the structure itself of NFT often makes it tricky and hard to comply with such rules.

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<sup>51</sup> Anil Dash, “NFTs Weren’t Supposed to End Like This”, 2 April 2021, blogpost < <https://medium.com/the-atlantic/nfts-werent-supposed-to-end-like-this-14f14aff42e1>> , accessed 5 April 2022

<sup>52</sup>Pawel Kamocki, “Copyright Law Overview”, Common Language Resources and Technology Infrastructure, < <https://www.clarin.eu/content/clic-overview-copyright-law>>, accessed 27 April 2022

<sup>53</sup> US Copyright Office , <<https://www.copyright.gov/what-is-copyright/>>, accessed 26 April 2022

## 1.4 Rights of the acquirer and of the seller

In the art, music and sportive world, the transfer of copyright for NFTs is linked to the type of NFT the buyer and seller are dealing with, and the content of the smart contract that regulates such a transaction. NFTs raised serious misinterpretations about what rights they grant to their holder and seller. Misconceptions come from how NFTs can be qualified. An NFT is characterized by the fact that it represents a non-fungible token that relies on the concept of scarcity. This means that when purchasing an NFT, the buyer purchases a unique item that has been minted and is linked to an exclusive code recorder in the blockchain. However, nothing stops the creator from creating other “unique” versions related to the same piece of art and minting them on the blockchain.<sup>54</sup> Thus, the idea of scarcity linked to the concept of NFTs is an illusion. An NFT is only a digital receipt that certifies that the buyer “owns a signed version of something, not the actual thing itself.”<sup>55</sup> So, we could question the purpose of buying an NFT if such items do not provide their buyers with a unique and not replicable version of a work. However, when purchasing an NFT, the interest should not be put on the rights the acquirer could hold. This is because the concept of NFTs does not link ownership to the original work but “to the encounter, the ritual, the communication itself.”<sup>56</sup> Thus, the value of the NFT that comes from scarcity isn’t linked to the work itself but rather to the signed cryptographic receipt that certifies that the buyer owns a unique digital version of the work.<sup>57</sup>

With NFT, there is often a lack of clarity regarding the rights that the holder and the seller are granted with when purchasing or selling a token. When purchasing an NFT, the buyer generally won’t be entitled to copyrights on the original work but only a quasi-ownership on the metadata linked to the NFT. Indeed, the acquirer owns only a right on such metadata linked to the digital object unless «(i) the transaction is accompanied by contractual stipulations regarding the transfer of the tokenized work that are valid under the applicable national law, or (ii) the applicable national law somehow configures an NFT transaction (absent other contractual stipulations) as the transfer of the tokenized work, then the acquirer of an NFT obtains only a right over the metadata pointer to a digital object.»<sup>58</sup>

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<sup>54</sup> Andres Guadamuz, “Can copyright teach us anything about NFTs?”, TechnoLlama, (7 March 2021), <<https://www.technollama.co.uk/can-copyright-teach-us-anything-about-nfts>>, accessed 28 May 2022

<sup>55</sup> Ibid 1

<sup>56</sup> Johanna Gibson, “The thousand-and-second tale of NFTs, as foretold by Edgar Allan Poe”, Queen Mary Journal of Intellectual Property, (August 2021), 251

<sup>57</sup> Andres Guadamuz, “Can copyright teach us anything about NFTs?”, TechnoLlama, (7 March 2021), <<https://www.technollama.co.uk/can-copyright-teach-us-anything-about-nfts>>, accessed 28 May 2022

<sup>58</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids you’re looking for”, European Intellectual Property Law Review, (January 2022), 21

Thus, only if stated on the contract terms the acquirer will obtain ownership or exclusive rights on the NFT it purchase.<sup>59</sup> This means that the original work -for instance, a song- can still be listened to by third parties without infringing contract terms. The seller will then usually still own the copyright associated with the original work of art that was turned into an NFT. This, only if such seller is the author of the rightsholder of such work of art; otherwise, we could have a problem of copyfraud -see sections 3, 4 and 5.

However, the purchase of an NFT can grant the acquirer certain rights. Those rights need to be specified in the contractual terms of the acquisition. They are often related to limited licenses to use the work in specific ways – such as commercial exploitation.<sup>60</sup> The licenses can be valid and executed only if they comply with national copyright laws where the transaction occurs.

The rights of buyers and sellers are usually settled out in the Terms & Conditions of platforms. These normally specify the rules that every user should respect when trading tokens. Moreover, smart contracts are essential when establishing the rights of both buyers and sellers.

*Directive 2001/29/EC* is particularly relevant when dealing with authors' right to communication and distribution to the public of their works of art. Indeed, Article 3 protects authors' exclusive right to communicate their work to the public by stating that «Member States shall provide authors with the exclusive right to authorise or prohibit any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them».<sup>61</sup> This right is particularly relevant when dealing with buyers and sellers as it's the communication to the public of a work of art that creates interest for the trading of a work. Indeed, if a piece of art is unknown and not communicated to an audience -that could include some potential buyers- there will be basically no trade regarding such a piece of art. Moreover, communication to the public allows an artist to be attached to his work and protect his creation. Article 3(2) provides for an author the right to either authorize or prohibit the communication to the public of their work made by third parties. This right grand them the opportunity to control the communication process that regards their creation.

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<sup>59</sup> Ibid 1, 21

<sup>60</sup> Ibid 2, 22

<sup>61</sup> Article 3(1) of Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society



However, under EU law, the sale of an NFT does not seem to fall within the purpose of *Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society*. Indeed, such a Directive applies only to tangible objects and, as an NFT is defined as a non-fungible object, it cannot fit within the scope of the Directive. Moreover, also the distribution right settled out by Article 4 relates only to the selling of tangible objects; therefore, the trade of a copyrighted work associated with an NFT might not be protected under EU law.<sup>62</sup>

The general purpose of the research is to tackle and explore the copyright aspects related to NFTs. Due to the lack of a proper regulation within the European legal framework that directly addresses NFTs, our analysis will focus on existing pieces of legislation and their possible applications to NFTs. The need to tackle copyright issues related to NFTs is shown by the growing case law that raises issues related to the potential violation of copyright law made by the minting and selling of NFTs. The case of Rijksmuseum poses several considerations about the phenomenon of mining a work of art classified as public domain. Such classification and the dispute that has been going on between the museum and GAM need further analysis to identify the issues for copyright law and how these should be solved. The case study aims to highlight the aspect of copyright law that should be considered when dealing with NFTs in the art world.

The thesis will then focus on analyzing the copyright law aspects applied to NFTs in the music world by taking the case of Reasonable Doubt as an example. The such analysis aims to understand the possible copyright infringements highlighted in the first legal action involving NFTs and copyright in front of an American court. The case is particularly relevant as it can open the road to a series of legal disputes in front of Courts that involve the minting of an NFT linked to music and some possible copyright infringements.

The thesis will then analyses the NFTs related to the sports industry by examine the future of digital trade in sports and the case of NBA Top Shot. This innovative platform allows the trading of NBA “unique moments” sold as unique NFTs. As for the previous types of NFTs, the author will question what piece of copyright law could be applied to NFTs in the sports industry.

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<sup>62</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids you’re looking for”, *European Intellectual Property Law Review*, (January 2022), 23

The second part of the thesis will provide an overview of the issues encountered in our previous analysis, focusing on the actual state of the law of NFTs. Finally, the third part will provide some general considerations as a result of the paper and what could be the solutions applied to such issues raised.

### Research Question:

What are the intellectual property rights related to NFTs in the Metaverse?

### Research method

The research question mainly requires a descriptive approach. Indeed, I will analyze the current situation of NFTs from an external perspective, looking at their recent impact in the economic, artistic, and sociological fields. To do so I will mainly refer to the Wilcox Report 2022 to give an overview of the importance and the role of NFTs in the online art market. Such an approach will allow me to give an external general overview of the current state of the art of NFTs, how they are stored, and what are the most common ways they are used. The need for the external approach is shown by the fact that NFTs are relatively new and highly technical. Therefore, before tackling the legal aspects of NFTs, we should understand what we are dealing with.

I will then adopt an internal legal and doctrinal perspective in order to determine how NFTs are or could be regulated. To do so, I will study substantial and procedural norms to establish which could apply to NFTs. Moreover, the doctrinal approach will allow me to determine what legal considerations scholars are raising about NFTs and what changes they seek.

Furthermore, this thesis will try to propose a regulatory regime that could effectively fit for the regulation of NFTs in the fields analyzed. To do so, the analysis will adopt an evaluative perspective to establish what the law does or is indeed expected to do. Such evaluations will be anticipated by a general overview of copyright law core principles and a discussion about their possible applications to NFTs. Indeed, the whole methodological approach of this thesis is to determine what the copyright aspects related to NFTs are and how traditional concepts of copyright law could be applied to NFTs.

The research thesis will particularly focus on analyzing works of the European Union such as the European Commission Proposal for a Regulation on Markets in Crypto assets and amending Directive (EU), the Directive 2001/84/EC, the Directive 2001/29/EC, the Directive 2014/65/EU, Directive 2018/843, Directive 2019/790, Regulation (EU) 2017/1129, Regulation (EU) 2019/880 as well as the Council Regulation (EC) on the export of cultural goods, the E-Commerce Directive and the Berne Convention.

## **Section 2: The principles of copyright law in relation to NFTs and intellectual property rights in the Metaverse**

- 2.1 Copyright core principles
- 2.2 Platforms' liability
- 2.3 Notice and takedown procedure
- 2.4 Proof of authenticity

Purchasing a Non-fungible token does not normally involve the transfer of copyright, but recently few platforms have included copyrights in a sale. Indeed, Mintable proposed to include a tick-box that allows the subject that wants to mint an NFT also to transfer the copyright to potential buyers when they purchase their asset.<sup>63</sup> The introduction of such a possibility by platforms can be seen as a tendency to introduce copyright law in NFTs. However, we should wonder whether such a minimalistic form of granting rights could be seen as valid for the transferring of rights on a work. According to Art 5(2) of the Berne Convention, “The enjoyment and the exercise of these rights shall not be subject to any formality; such enjoyment and such exercise shall be independent of the existence of protection in the country of origin of the work. Consequently, apart from the provisions of this Convention, the extent of protection and the means of redress afforded to the author to protect his rights shall be governed exclusively by the country’s laws where protection is claimed.”

The authors, Professor Balazs Bodo et Al. have identified three types of licensing of rights that relate to the creation and the trading of NFTs: |«(i) the software license on the smart contract, i.e., the code owned by the developer entity; (ii) the copyright license agreement (if any) signaling a shift on the copyright status of the work underlying the traded NFT; and (iii) the license agreement necessary to display the (copy of the) work underlying the NFT as an icon or avatar on the respective marketplace or other social media platforms.»<sup>64</sup>

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<sup>63</sup> Andres Guadamuz “The treachery of images: non-fungible tokens and copyright”, *Journal of Intellectual Property Law & Practice*, 2021, 1373

<sup>64</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids your’re looking for”, *European Intellectual Property Law Review*, (January 2022), 12

The most relevant type of copyright law is the second one, as it involves some structural changes for the rights related to the work and endures a shift in the status of such a work. Type one typically represents the software license that does not relevantly affect the transaction. Finally, type three is relevant for displaying the work contained in the second type of agreement. Such need is usually settled out either by the second type of licensing of rights or by the T&Cs of the platform.<sup>65</sup>

## 2.1 Copyright core principles

Copyright can be defined as «the property right law gives authors/creators and those taking ownership from them to control the copying and other forms of exploitation of their creations or ‘works.»<sup>66</sup> This means that the intellectual creations of the author are subjected to copyright law.<sup>67</sup>

According to the World Intellectual Property Organization (WIPO), copyright protects «literary and artistic works, including every original work of authorship, irrespective of its literary or artistic merit. The ideas in the work do not need to be original, but the form of expression must be an original creation by the author.»<sup>68</sup> Indeed, according to Article 2 of the Berne Convention, «the expression ‘literary and artistic works’ shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression». The Convention gives a list of some possible forms of expression that could grant the author copyright in his work, and this includes literary, choreographic, musical, cinematographic, painting, and architectural [...] works.<sup>69</sup>

There are three core principles linked to copyright law: the creation of the work, the exploitation of the copyright, and the enforcement of the copyright. The particularity of copyright law is that the author is automatically granted copyrights on his work when he creates such work.<sup>70</sup> Indeed, he doesn’t need to register such work -unlike the patent- but he automatically acquires copyrights with the simple creation of the work.<sup>71</sup> Thus, with a notice attached to the work, he could need to communicate to the public that he is the author. Such a principle of communication to the public is

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<sup>65</sup> Ibid 1, 13

<sup>66</sup> Simon Stokes, “Digital Copyright : Law and Practice”, Bloomsbury Publishing Plc, (2019), 58

<sup>67</sup> Ibid 1

<sup>68</sup> “Understanding Copyright and Related Rights”, World Intellectual Property Organization, (2016), < [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 19 June 2022, 7

<sup>69</sup> Berne Convention for the Protection of Literary and Artistic Works

<sup>70</sup> For example, such principle is affirmed in the Italian Civil Code under Article 2576

<sup>71</sup> “Copyright”, Your Europe, < [https://europa.eu/youreurope/business/running-business/intellectual-property/copyright/index\\_en.htm](https://europa.eu/youreurope/business/running-business/intellectual-property/copyright/index_en.htm)>, accessed 17 June 2022

extremely important for copyright law as it allows an author to be attached to his work and grants them the right to prohibit third parties from communicating or using such work<sup>72</sup> without his consent.

#### A) Exploitation rights

Once created, the author has the exploitation rights of his work. This means that he has economic rights related to his work – so he has the possibility to earn a financial reward for others' use of his work- as well as moral rights -meaning that he can take actions in order to protect and preserve his work.<sup>73</sup> On the one hand, economic rights give the author the possibility to either authorize or prohibit several actions related to his work, including the «reproduction of the work in various forms, such as printed publications or sound recordings; distribution of copies of the work; public performance of the work; broadcasting or other communication of the work to the public; translation of the work into other languages; and adaptation of the work, such as turning a novel into a screenplay.»<sup>74</sup> On the other hand, moral rights are affirmed by Article 6*bis* of the Berne Convention, that grant the author “the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation”.<sup>75</sup> Moreover, Article 6*bis* requires such moral rights to be independent of the author's economic ones.

The economic rights related to the creation of the work grant the author the right to decide how to use his work and how others should use it. To lawfully use the author's work, these third parties need his permission.<sup>76</sup> The main economic rights granted to the author in the Berne Convention and stated by the WIPO Copyright Treaty (WCT) are the following:

- a) Rights of reproduction, distribution, rental, and importation
- b) Rights of public performance, broadcasting, communication to the public, and making available to the public
- c) Translation and adaptation rights

The first category of rights allows the copyright owner to prevent third parties from making non-authorized copies of their work. Indeed, the right to control the reproduction of the work is generally

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<sup>72</sup> See Article 3(1) of the Information Society Directive

<sup>73</sup> Understanding Copyright and Related Rights, World Intellectual Property Organization, (2016), <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 19 June 2022, 9

<sup>74</sup> Ibid 1, 10

<sup>75</sup> Article 6*bis*(1) of the Berne Convention

<sup>76</sup> Understanding Copyright and Related Rights, World Intellectual Property Organization, (2016), <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 19 June 2022, 10

considered<sup>77</sup> by WIPO as the basis of copyright protection. Article 9 of the Berne Convention states that «(1) Authors of literary and artistic works protected by this Convention shall have the exclusive right of authorizing the reproduction of these works, in any manner or form.»<sup>78</sup> Moreover, to reinforce the reproduction right, many European legal frameworks also recognize the distribution rights of copies of work. Indeed, without the distribution right, the reproduction right would only be «of little economic value if copyright owners could not control the distribution of copies of their works made with their consent.»<sup>79</sup> Thus, the distribution right consists in making the work available to the public and generally ends after the first sale or the transfer of the ownership of a physical copy of the work<sup>80</sup>, which, to be lawful, needs to be made with the copyright owner's consent. Finally, the rights to authorize the rental and exportation of copies are specifically stated in the WCT, as it particularly stresses the need to adapt copyright law to the technological developments our society faces. The right of rental and importation refers to the authorization to rent certain copies of works<sup>81</sup>, such as computer programs or audiovisual and musical works. Moreover, some copyright laws can include the right to control the importation of copies.

This right is generally affirmed in order to preserve the principle of copyright territoriality and protect it from possible erosion.<sup>82</sup> The idea behind such a principle is that the economic interest of the copyright owner could be put in danger in the case where he could not exercise his rights -of distribution and reproduction- on a territorial basis. Such rights are of fundamental importance as they aim to prevent possible abuses of copyright that could derive from the technological advances our society has made -for instance, the possibility for customers of a rental shop to copy the works.

The second category of rights is divided into three sub-categories. The right of public performance is generally considered under various European legislation to include «any performance of a work at a place where the public is or can be present, or at a place not open to the public but where a substantial number of persons outside the normal circle of a family and its close acquaintances are present.»<sup>83</sup> The Berne Convention defines the right to a public performance at Article 11 by stating that «(1) Authors of dramatic, dramatic-musical and musical works shall enjoy the exclusive right of authorizing:

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<sup>77</sup> Ibid 1, 11

<sup>78</sup> Article 9 (1) of the Berne Convention

<sup>79</sup> Understanding Copyright and Related Rights, World Intellectual Property Organization, (2016), <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 19 June 2022, 11

<sup>80</sup> Ibid 1, 11

<sup>81</sup> Ibid 2, 11

<sup>82</sup> Ibid 3, 11

<sup>83</sup> Ibid 3, 12

- (i) the public performance of their works, including such public performance by any means or process;
- (ii) any communication to the public of the performance of their works.[...]»<sup>84</sup>.

The other sub-right is the right of broadcasting which is covered by Article 11*bis* of the Berne Convention. Such right refers to the possibility for «(1) Authors of literary and artistic works (to) enjoy the exclusive right of authorizing:

1. (i) the broadcasting of their works or the communication thereof to the public by any other means of wireless diffusion of signs, sounds or images;
2. (ii) any communication to the public by wire or by rebroadcasting of the broadcast of the work, when this communication is made by an organization other than the original one;
3. (iii) the public communication by loudspeaker or any other analogous instrument transmitting, by signs, sounds or images, the broadcast of the work.»<sup>85</sup>

In recent years, such a right has been a subject of various debates due to the technological development our society has faced. Indeed, the discussion was focused on the fact that with the use of digital technologies, it is now possible for users to directly select works to be delivered directly to their devices<sup>86</sup>, and therefore the question was what type of right should be applied to such an activity. According to the WIPO, such activity should be covered by Article 8 of WCT, which affirms that “authors of literary and artistic works shall enjoy the exclusive right of authorizing any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access these works from a place and at a time individually chosen by them.”<sup>87</sup> Moreover, Article 3 of the *Information Society Directive* echoes what is stated in the treaty by affirming that «(1) Member States shall provide authors with the exclusive right to authorize or prohibit any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them.»<sup>88</sup>

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<sup>84</sup> Article 11 of the Berne Convention

<sup>85</sup> Article 11*bis* of the Berne Convention

<sup>86</sup> Understanding Copyright and Related Rights, World Intellectual Property Organization, (2016), <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 19 June 2022, 12

<sup>87</sup> Article 8 of WIPO Copyright Treaty (1996)

<sup>88</sup> Article 2 of the InfoSoc Directive



Finally, the last category refers to translation and adaptation rights. According to Article 12 of the Berne Convention, «Authors of literary or artistic works shall enjoy the exclusive right of authorizing adaptations, arrangements and other alterations of their works.»<sup>89</sup>. Thus, a specific authorization is required by the copyright owner in case of translation or adaptation of his work. We can define a translation as «the expression of a work in a language other than that of the original version.»<sup>90</sup>; while adaptation can be defined as «the modification of a work to create another work, for example, adapting a novel to make a film, or the modification of a work for different conditions of exploitation».<sup>91</sup> Both translation and adaptation are protected by copyright as they are themselves considered as works. To publish a work that involves either translation or adaptation, it is necessary to have the permission of both the owner of the copyright of the original work and the owner of the copyright of the work that has been subjected to a translation or an adaptation.<sup>92</sup>

As stated before, moral rights are affirmed by Article *6bis* of the Berne Convention. Indeed, such article states that «(1) Independently of the author's economic rights, and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation.

(2) The rights granted to the author in accordance with the preceding paragraph shall, after his death, be maintained, at least until the expiry of the economic rights, and shall be exercisable by the persons or institutions authorized by the legislation of the country where protection is claimed. However, those countries whose legislation, at the moment of their ratification of or accession to this Act, does not provide for the protection after the death of the author of all the rights set out in the preceding paragraph may provide that some of these rights may, after his death, cease to be maintained.

(3) The means of redress for safeguarding the rights granted by this Article shall be governed by the legislation of the country where protection is claimed.»<sup>93</sup>

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<sup>89</sup> Article 12 of the Berne Convention

<sup>90</sup> Understanding Copyright and Related Rights, World Intellectual Property Organization, (2016), <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 19 June 2022, 13

<sup>91</sup> Ibid 1, 13

<sup>92</sup> Ibid 2, 13

<sup>93</sup> Article *6bis* of the Berne Convention

Such an article is of fundamental importance for copyright law as it affirms the right of paternity of the work for the author and the right of integrity which protects the author from possible distortion or modification of his work.<sup>94</sup>

Therefore, economics and moral rights are fundamental to copyright law and ensure the author/copyright owner some legal basis for referring to in case some violations of his work would occur.

## B) Exhaustion

Once a work is created, authors are granted both economic and moral rights. The main difference between such rights is that moral rights are generally not transferable, while the author can transfer economic rights to third parties. Moreover, it is relevant to precise that copyright protection has a time limit. Indeed, the protection copyright law provides for the work starts with the creation or -in some national laws- with the expression or fixation of the work.<sup>95</sup> Generally, the copyright lasts for 70 years after the author's death. Such a provision allows the author's successor to have the possibility to exploit the work and receive some economic benefit from such activity. Once a work is no longer subject to copyright protection, it becomes of the public domain.

The concept of exhaustion -also known in US law as the first sale doctrine<sup>96</sup>- is another core element in copyright law. Such a principle states that once the copyright owner has sold his work for the first time, his distribution right should be considered exhausted. The reasoning behind such a principle is to prevent the author from being granted some unbalanced rewards.<sup>97</sup> Indeed, once the author sells his work for the first time, he cannot claim control of future sales. Thus, such a principle “permits activities incidental to the use and enjoyment of copies by their owners”.<sup>98</sup>

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<sup>94</sup> Understanding Copyright and Related Rights, World Intellectual Property Organization, (2016), <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_909\\_2016.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_909_2016.pdf)>, accessed 19 June 2022, 14

<sup>95</sup> Ibid 1, 19

<sup>96</sup> International Exhaustion and Parallel Importation”, World Intellectual Property Organization, <[https://web.archive.org/web/20120812055514/http://www.wipo.int/sme/en/ip\\_business/export/international\\_exhaustion.htm](https://web.archive.org/web/20120812055514/http://www.wipo.int/sme/en/ip_business/export/international_exhaustion.htm)>, accessed 20 June 2022

<sup>97</sup> Anna P. Chatzimichali, The limits of Intellectual Property: Exhaustion of rights, international trademarks and digital copyright, UWE Bristol, (17 March, 2021), <<https://uwe-repository.worktribe.com/output/7211902>>, accessed 20 June 2022

<sup>98</sup> Aaron Perzanowski & Jason Schultz, “Digital Exhaustion”, (2011), 58 UCLA L Rev 889, 912

Looking into the European legal framework, the principle of exhaustion technically applies only to a tangible object. Such a principle was first introduced by international sources, which are the WIPO Internet Treaties<sup>99</sup>- composed of the WIPO Copyright Treaty and the WIPO Performances and Phonogram Treaty. Article 6 of the WIPO Copyright Treaty rules that «(2) nothing in this Treaty shall affect the freedom of Contracting Parties to determine the conditions, if any, under which the exhaustion of the right [of distribution] applies after the first sale or other transfer of ownership of the original or a copy of the work with the authorization of the author».<sup>100</sup> It is relevant to note that the Agreed Statements concerning the WIPO Copyright Treaty of 1996 specified that the words “copies” and “original and copies” are used to «refer exclusively to fixed copies that can be put into circulation as tangible objects.»<sup>101</sup> Therefore, it is excluded by the Agreed Statement that such an article can also tackle questions that refer to intangible objects. Only later the principle of exhaustion was affirmed by European sources- the *1991 Software Directive I* and the *1992 Rental Directive I*-<sup>102</sup> that, however, did not specify if such a principle was applicable only to tangible objects.

The more recent legislation that dealt with the concept of exhaustion is the *Information Society Directive* of 2001. Indeed, the concept of exhaustion is affirmed by Article 4 (2) of the Information Society Directive, which states that “the distribution right shall not be exhausted within the Community in respect of the original or copies of the work, except where the first sale or other transfer of ownership in the Community of that object is made by the rightsholder or with his consent”. However, when dealing with the selling of digital works, questions arise on how the concept of exhaustion should be interpreted in a digital environment. Indeed, Recitals 28 and 29 of *Information Society Directive* provide some further analysis regarding the digital world. Recital 28 states that «(28) Copyright protection under this Directive includes the exclusive right to control distribution of the work incorporated in a tangible article»<sup>103</sup>. Furthermore, Recital 29 precises that «(29)The question of exhaustion does not arise in the case of services and on-line services in particular. [...] every on-line service is in fact an act which should be subject to authorization where the copyright or related right so provides.»<sup>104</sup>

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<sup>99</sup> Caterina Sganga, “A Plea for Digital Exhaustion in EU Copyright Law”, Jipitec, (19 October, 2018), < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3270055](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3270055)>, accessed 20 June 2022, 5

<sup>100</sup> Article 6 of the WIPO Copyright Treaty

<sup>101</sup> Agreed Statements concerning the WIPO Copyright Treaty, (December 20, 1996), < [https://wipolex-res.wipo.int/edocs/lexdocs/treaties/en/wct/trt\\_wct\\_002en.pdf](https://wipolex-res.wipo.int/edocs/lexdocs/treaties/en/wct/trt_wct_002en.pdf)>, accessed 9 February 2023

<sup>102</sup> Caterina Sganga, “A Plea for Digital Exhaustion in EU Copyright Law”, Jipitec, (19 October, 2018), < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3270055](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3270055)>, accessed 20 June 2022, 6

<sup>103</sup> Recital 28 of the Information Society Directive

<sup>104</sup> Recital 29 of the Information Society Directive

Although Recital 28 excludes from the scope of the *Information Society Directive* its applicability to intangible objects, and Recital 29 clearly states that the question of exhaustion is not relevant for on-line service, our society has since 2001 made some relevant digital development and thus the need to tackle such issues is today more urgent than ever. Such an urge to tackle the problem of digital exhaustion can be illustrated through relevant case law.

The case of *Nederlands Uitgeversverbond and Groep Algemene Uitgevers v Tom Kabinet Internet BV and Others (C-263/18)* is particularly relevant when dealing with these issues. Indeed, in this case, two associations - *Nederlands Uitgeversverbond* and *Groep Algemene Uitgevers*- asked the online platform *Tom Kabinet* to stop selling secondhand e-books.<sup>105</sup> The case is linked to the interpretation of exhaustion given by Article 4 (2) of the *Information Society Directive* and whether exhaustion applies only to tangible or intangible objects. A positivistic approach would consider that the *Information Society Directive* only applies to tangible objects. However, such a vision never reflected the fact that at the time of the Directive's publication, digital markets were still in their infancy and were not as important as they do today.<sup>106</sup>

The European Court of Justice has, however, tried to adjust its restrictive approach -especially in the *UsedSoft* case- by stating that «the right of distribution of a copy of a computer program is exhausted if the copyright holder who has authorized, even free of charge, the downloading of that copy from the internet onto a data carrier has also conferred, in return for payment of a fee intended to enable him to obtain a remuneration corresponding to the economic value of the copy of the work of which he is the proprietor, a right to use that copy for an unlimited period.»<sup>107</sup> Such a statement refers to the interpretation of Article 4(2) of Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 dealing with the exhaustion of the distribution right for computer programs. However, although some adjustments have been made to such a principle, our current European legal framework does not seem to apply exhaustion to the selling of works they qualify as non-tangible works. Our current legal framework is highly contradictory as it requires the consent of the author for the resale of an NFT that represents an original physical work but does not require such consent if the resale refers directly to the physical work, that is also digitally represented as an NFT.

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<sup>105</sup> Caterina Sganga, “A Plea for Digital Exhaustion in EU Copyright Law”, *Jipitec*, (19 October, 2018), < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3270055](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3270055)>, accessed 20 June 2022, 4

<sup>106</sup> *Ibid* 1, 2

<sup>107</sup> *UsedSoft GmbH v Oracle International Corp*, Judgement of the European Court of Justice (Grand Chamber), Case C-128/11, (July 3, 2012), < <https://curia.europa.eu/juris/document/document.jsf?docid=124564&doclang=EN>>

### C) Copyright enforcement

The last relevant core principle in copyright law is the enforcement of copyright. Nowadays, within the European Union, the copyright last seventy years after the death of the author, and for related rights, seventy years after the first performance of the author's work.<sup>108</sup> There are three interdependent rationales for the existence of copyright law that are related to natural law, economic incentives, and social requirements.<sup>109</sup> At first, copyright exists to give a person ownership of a work that comes from the fruit of his or her mind. Secondly, copyright exists for economic purposes, as it allows to reward authors with appropriate compensation for the work they created. Lastly, the reward should not be considered only for the author's single interest but also as a form of public interest as, with his work, the author "enriches the national cultural patrimony".<sup>110</sup>

Within the European Union, the main laws to regulate copyright enforcement are the *Information Society Directive (2001/29/EC)* and the *Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market* (which has been adopted within the Italian legal framework on November 8<sup>th</sup> 2021 and published on November 27<sup>th</sup> of the same year in the *Gazzetta Ufficiale*). Both Directives deal with copyright and related rights within the European Union while taking into account our digital environment. The *Information Society Directive* was particularly innovative back in 2001 as it has contributed to shaping a more uniform copyright system with the European Union.<sup>111</sup> Indeed, the Directive has introduced into the European legal framework the whole idea of "pan-European copyright law"<sup>112</sup>. Indeed, the *Information Society Directive* «aims to adapt legislation on copyright and related rights to technological developments and particularly to the information society, while providing for a high level of protection of intellectual property».<sup>113</sup> Indeed, the main goal of the Directive is to allow the harmonization of fundamental rights granted to authors -such as the right of communication to the

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<sup>108</sup> Trisha Meyer, "The Politics of Online Copyright Enforcement in the EU, Access and Control", Plagrave Macmillan, (2017), 49

<sup>109</sup> *Ibid* 1, 50

<sup>110</sup> *Ibid* 2, 51

<sup>111</sup> Peter Mezei, "A comprehensive guide to the InfoSoc Directive", *Journal of Intellectual Property Law & Practice*, (January 2020), 71

<sup>112</sup> *Ibid* 1, 71

<sup>113</sup> Summary of EU Legislation, "Copyright and related rights in the information society", Eur-Lex, < <https://eur-lex.europa.eu/EN/legal-content/summary/copyright-and-related-rights-in-the-information-society.html>>, accessed 12 February 2023

public, the reproduction right and the distribution right- while allowing also some limitations to such rights.

The more recent CDSM provides some interesting novelty regarding the *Information Society Directive*, particularly about adapting the copyright European rules to the new updates the online world has made -since 2001. Such a Directive aims to create a set of rules that will benefit a various number of actors operating in the digital environment, such as internet users, artists, film and music providers, and online services...<sup>114</sup> The new Directive is particularly interesting as it introduces a new settlement of rules to ensure better protection of rightholders -such as music or film producers- in the process of remuneration and negotiation when their content is used and displayed in online platforms.<sup>115</sup>

Thus, both Directives address some relevant issues related to copyright law within the European legal framework. The more recent CDSM is notable as it tackles some recent development our digital environment has faced in more recent years (for instance, the phenomenon of hyperlinking mentioned in the CDSM under recital 57 and Article 15)

## 2.2 Platforms' liability

Copyright infringement in NFTs can only be tackled by analyzing the platforms that allow their selling<sup>116</sup>. Indeed, these platforms enable the trade of NFTs and therefore play a key role in the market. When dealing with platforms' liability, the first issue we need to address is their legal qualification. In the EU framework, three regimes could potentially apply to platforms.

Platforms fall within the *Directive on Copyright in the Digital Single Market* (CDSM), and qualify as "online content sharing service providers", meaning a «provider of an information society service of which the main or one of the main purposes is to store and give the public access to a large amount of copyright-protected works or other or other protected subject-matter uploaded by its users, which it organizes and promotes for profit-making purposes.»<sup>117</sup> In Recital 62, the legislator specifies that

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<sup>114</sup> European Commission, "Shaping Europe's Digital future", < <https://digital-strategy.ec.europa.eu/en/faqs/copyright-reform-questions-and-answers>>, accessed 12 February 2023

<sup>115</sup> Ibid 1

<sup>116</sup> Andres Guadamuz "The treachery of images: non-fungible tokens and copyright", *Journal of Intellectual Property Law & Practice*, 2021, 16

<sup>117</sup> Article 2(6), Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC

the CDSM applies to services with “ the main or one of the main purposes of which is to store and enable users to upload and share a large amount of copyright-protected content with the purpose of obtaining profit therefrom, either directly or indirectly, by organizing it and promoting it in order to attract a larger audience, including by categorizing it and using targeted promotion within it.”<sup>118</sup> Such a definition seems to apply to blockchain platforms that are aimed at minting works of art -often protected under copyright law- and allowing the selling of NFTs. If we consider that Article 2(6) applies to platforms, then Article 17 liability regime should also apply to platforms, when dealing with protected content.<sup>119</sup>

The other piece of legislation that could apply to platforms is the Information Society Directive in light of the CJEU interpretations.<sup>120</sup> Indeed, the right of communication to the public<sup>121</sup>, previously analyzed, could need the intervention of platforms in order to facilitate the process of displaying and communicating a work to the public.

When dealing with platforms’ liability, *Directive 2019/790 on Copyright and related rights in the Digital Single Market* is particularly relevant. The Directive provides some specific rules for online content-sharing providers, which we use in the trade of NFTs. Providers are defined by the Directive under Article 2(6) as «provider of an information society service of which the main or one of the main purposes is to store and give the public access to a large amount of copyright-protected works or other protected subject-matter uploaded by its users, which it organizes and promotes for profit-making purposes».<sup>122</sup> Article 17 of the Directive provides a legal base for platforms’ liability in specific cases while performing «an act of communication to the public or an act of making available to the public for the purposes of this Directive when it gives the public access to copyright-protected works or other protected subject-matter uploaded by its users.» In those cases, if platforms do not have the permission of the copyright owner to communicate that content to the public, they can be held liable for such behavior.<sup>123</sup> The permission could be granted to platforms throughout a license agreement where the copyright holder formally provides his consent for the sharing of his work. Moreover, in

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<sup>118</sup> Ibid 1, Recital 62

<sup>119</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids you’re looking for”, *European Intellectual Property Law Review*, (January 2022), 27

<sup>120</sup> Ibid 1, 27

<sup>121</sup> Article 3(1) of Directive 2001/29/EC

<sup>122</sup> Article 2(6) of Directive 2019/790 on Copyright and related rights in the Digital Single Market

<sup>123</sup> Bertolini, Episcopo, Cherciu, “Liability of online platforms”, European Parliament, Study

Panel for the Future of Science and Technology, (February 2021),

<[https://www.europarl.europa.eu/RegData/etudes/STUD/2021/656318/EPRS\\_STU\(2021\)656318\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/656318/EPRS_STU(2021)656318_EN.pdf)>, accessed 25 June 2022, 38

the case where the license agreement is not concluded, and the platform still communicates to the public specific content, their liability could be mitigated<sup>124</sup> if they «demonstrate that they have:

- (a) made best efforts to obtain an authorization, and
- (b) made, in accordance with high industry standards of professional diligence, best efforts to ensure the unavailability of specific works and other subject matter for which the rightholders have provided the service providers with the relevant and necessary information; and in any event
- (c) acted expeditiously, upon receiving a sufficiently substantiated notice from the rightholders, to disable access to, or to remove from their websites, the notified works or other subject matter, and made best efforts to prevent their future uploads in accordance with point (b)». <sup>125</sup>

Moreover, *the Council Directive 2000/31/EC of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (E-Commerce Directive)* provides some relevant aspects that we should consider when tackling platforms' liability. The *E-Commerce Directive* settles out some specific rules that apply to “information society services” that are “‘normally' provided 'for remuneration' by 'electronic means' upon 'an individual request of a user'”. <sup>126</sup>

Article 12 of the E-Commerce Directive states that «where an information society service is provided that consists of the transmission in a communication network of information provided by a recipient of the service, or the provision of access to a communication network, Member States shall ensure that the service provider is not liable for the information transmitted, on condition that the provider:

- (a) does not initiate the transmission;
- (b) does not select the receiver of the transmission; and
- (c) does not select or modify the information contained in the transmission.»

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<sup>124</sup> Ibid 1, 38

<sup>125</sup> Article 17(4) of Directive 2019/790 on Copyright and related rights in the Digital Single Market

<sup>126</sup> Tambiama Madiega, “Reform of the EU liability regime for online intermediaries”, European Parliamentary Research Service, (May 2020), <

[https://www.europarl.europa.eu/RegData/etudes/IDAN/2020/649404/EPRS\\_IDA\(2020\)649404\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2020/649404/EPRS_IDA(2020)649404_EN.pdf)>, accessed 25 June 2022



Article 12 is particularly relevant as it establishes a “safe harbor” for information society services, that would not be considered liable under the E-Commerce Directive, for the information exchanged and transmitted when they fulfil 3 conditions. However, subpart 3 of Article 12 establishes that «this Article shall not affect the possibility for a court or administrative authority, in accordance with Member States' legal systems, of requiring the service provider to terminate or prevent an infringement».

Article 15 of the Directive affirms that platforms do not have a general obligation to monitor service providers. Indeed, it states that «Member States shall not impose a general obligation on providers, when providing the services covered by Articles 12, 13 and 14, to monitor the information which they transmit or store, nor a general obligation actively to seek facts or circumstances indicating illegal activity.

Member States may establish obligations for information society service providers promptly to inform the competent public authorities of alleged illegal activities undertaken or information provided by recipients of their service or obligations to communicate to the competent authorities, at their request, information enabling the identification of recipients of their service with whom they have storage agreements.»<sup>127</sup> Article 15 is essential as it establishes a duty for service providers to inform authorities of any type of illegal activities that take place on their platform and that they are aware of. Moreover, it states that Members States do not have an obligation to monitor the content that they store and cannot look if such pieces of information stored are linked to illegal activities.<sup>128</sup> However, Recital 40 of the E-Commerce Directive strongly encourages platforms to develop self-regulatory instruments that could help detect and remove any type of illegal activity they are hosting.<sup>129</sup> The Recital states that «the provisions of this Directive relating to liability should not preclude the development and effective operation, by the different interested parties, of technical systems of protection and identification and of technical surveillance instruments made possible by digital technology.»<sup>130</sup> Therefore, today the only practical solution seems to set an ex-post control of the content that is uploaded by users on platforms. Once updated, such information would need to be controlled, and if it doesn't comply with the platform's T&C, it should be removed. Moreover,

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<sup>127</sup> Article 15 of the Council Directive 2000/31/EC of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (E-Commerce Directive)

<sup>128</sup> Bertolini, Episcopo, Cherciu, “Liability of online platforms”, European Parliament, Study Panel for the Future of Science and Technology, (February 2021),

<[https://www.europarl.europa.eu/RegData/etudes/STUD/2021/656318/EPRS\\_STU\(2021\)656318\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/656318/EPRS_STU(2021)656318_EN.pdf)>, accessed 25 June 2022, 29

<sup>129</sup> Ibid 1, 30

<sup>130</sup> Recital 40 of the Council Directive 2000/31/EC of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (E-Commerce Directive)

platforms should instore a system that could allow users or any interested part to report the non-regularity of the published content.<sup>131</sup>

### 2.3 Notice and takedown procedure

Nowadays, there is a lack of proper regulation within the European Union when dealing with copyright infringement issues. In the USA, courts can order an online host to take down illegal content hosted. In Europe, Article 14 of the Electronic Commerce Directive establishes the basis for the notice and takedown procedure. Indeed, the article applies to content hosts when dealing with 'illegal activity or information. The article establishes that online service providers are not held responsible for such illegal activity only if «(a) the provider does not have actual knowledge of illegal activity or information and, as regards claims for damages, is not aware of facts or circumstances from which the illegal activity or information is apparent; or(b) the provider, upon obtaining such knowledge or awareness, acts expeditiously to remove or to disable access to the information». Furthermore, subpart 3 of Article 14 establishes that the Article “shall not affect the possibility for a court or administrative authority, in accordance with Member States' legal systems, of requiring the service provider to terminate or prevent an infringement, nor does it affect the possibility for the Members States of establishing procedures governing the removal or disabling of access to information.” Therefore, the Directive does not clearly set out a notice and takedown procedure, but it allows the Members States to terminate or prevent a possible infringement. Subpart 3 of Article 14 should be read in accordance with subpart 3 of Article 12 of the E-Commerce Directive previously discussed. Therefore, as within the European Union, there is no clear notice and takedown procedure -as in the United States- a possible solution to prevent and allow the removal of illegal content could be to encourage platforms to establish strict rules within their T&C to stop these infringements. The European Commission made some recommendations that enhanced such direction and aimed at detecting and removing illegal content.

There are seven key steps in these recommendations: «detecting and notifying illegal content, in cooperation with competent authorities; removing illegal content; preventing the re-appearance of illegal content; clearer 'notice and takedown action' procedures; more efficient tools and proactive technologies; stronger safeguards to ensure fundamental rights; special attention to small

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<sup>131</sup> Simone Aliprandi, “Capire il copyright”, Ledizioni, (2012), 150

companies».<sup>132</sup> The first step highlights the need for cooperation between platforms and competent authorities in order to detect and punish illegal content. Indeed, platforms could easily intercept illegal content as it takes place directly on their websites. Then, the removal of the content would be under the competence of the authorities. The second step (removing illegal content) provides that online platforms should remove illegal content as soon as they become aware of their existence and of their illicitly. The key point is their promptness in removing such content. To prevent illegal content from being uploaded on their server, the Commission states that «OPs should explain in a clear, easy, sufficiently detailed and understandable manner in their terms of service the type of content permitted/non-permitted, and what are the procedures for contesting removal decisions».<sup>133</sup> Therefore, also the Commission relies on the effectiveness of online platforms to elaborate some clear and complete rules on their T&C in order to combat and prevent illegal activities on their servers. The third step focuses on fighting the reappearance of illegal content on online platforms. To do so, platforms should refrain users from uploading content that has already been removed and categorized as illegal. The use of automatic tools could enhance platforms to identify the same content. However, the use of such devices should be specific in the platforms' T&C to make users aware of such features. The functioning of these measures could be enhanced with clearer “notice and takedown” procedures. Indeed, the European legal framework should provide some “easy and transparent rules for notifying illegal content, and fast-track procedures for 'trusted flaggers.’”<sup>134</sup> Moreover, platforms should also be granted the possibility to contest these measures and justify the non-removal of specific content. The fourth step focuses on the devolvement of more efficient tools to detect illegal content hosted by online platforms (especially for terrorist content). Finally, the last two steps highlight the need to put in place some specific safeguards for fundamental rights when removing illegal content and the need to implement automatic detection. Indeed, automated tools could particularly benefit smaller platforms in detecting illegal content as they often lack the appropriate resources to do so. OpenSea, one of the largest platforms operating in selling NFTs, already acts in a way that goes in the same direction as the Commission's recommendations. Indeed, their T&C states that they “reserve the right to remove content without prior notice. OpenSea will take down works in response to formal infringement claims and terminate a user's access to the Services if the user is determined to be a repeat infringer”.<sup>135</sup> OpenSea takes down content that infringes intellectual property rights based on the DMCA. Moreover, they will enable users' right to access the platform if they are responsible for

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<sup>132</sup> Bertolini, Episcopo, Cherciu, “Liability of online platforms”, European Parliament, Study Panel for the Future of Science and Technology, (February 2021), 7

<sup>133</sup> Bertolini, Episcopo, Cherciu, “Liability of online platforms”, European Parliament, Study Panel for the Future of Science and Technology, (February 2021), 7

<sup>134</sup> Ibid 1, 7

<sup>135</sup> “Terms Of Service”, OpenSea, < <https://opensea.io/tos>>, accessed 3 June 2022

multiple infringements. In addition, OpenSea's Terms of Service specify that when users place an NFT to sell on their platform, they automatically affirm they own the necessary rights to do so.<sup>136</sup> However, OpenSea operates in respect of United States law that is much more clear and precise when dealing with the notice and takedown procedures.

## 2.4 Proof of authenticity

The structure of the blockchain provides each NFT with some specific features that allow potential buyers to purchase a verified asset. Indeed, a benefit that blockchain brought into the market is the authenticity verification for any digital file.<sup>137</sup>

Such a structure offers many guarantees to potential buyers. Indeed, it generally provides the name of the current owner, the past owners, and even the past bid on a specific NFT. As long as the account of the seller is certified by the platform and the blockchain can directly link the NFT to the artist, then the buyer will have enough proof of authentication of the asset he wants to purchase. However, the blockchain does not show and tells potential buyers if the piece they want to purchase is an original work of art of the artist or merely a copy of someone else copyrighted work.

As previously highlighted, one of the main characteristics of blockchain is immutability, which refers to "three distinct situations: the transactions recorded in the blockchain, other contents recorded in the blockchain, and the code of the blockchain itself".<sup>138</sup> The statement for which the blockchain provides proof of authenticity for the selling of NFTs relies on the fact that once an asset is recorded on the blockchain, it cannot be changed or modified, and such immutability offers proof of the authenticity for that asset. However, when dealing with blockchain technology, we should take into consideration several aspects. At first, there are both public and private blockchains (as discussed above) that allow different disclosure of information. A private blockchain can allow certain users to modify the content of block<sup>139</sup>, altering therefore the concept of immutability.

Moreover, it is possible to distinguish the on-chain and off-chain assets recorded on the blockchain. On-chain assets are the one that exists only on the blockchain - for example, cryptocurrencies. As such assets are directly linked to the blockchain, their inherent nature makes them tamper-proof

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<sup>136</sup> Bodo, Giannopoulou, Mezei, Quintais, "The Rise of NFTs: These aren't the droids you're looking for", *European Intellectual Property Law Review*, (January 2022), 14

<sup>137</sup> *Ibid* 1, 10

<sup>138</sup> Eliza Mik, "Blockchains: A Technology for Decentralized Marketplaces", in *Impact of Technology on International Contract Law: Smart Contracts and Blockchain Technologies*, Forthcoming, (10 September 2018), 171

<sup>139</sup> *Ibid* 1, 172

regarding their authenticity. On the other hand, off-chain assets are the ones that exist outside the blockchain -like a painting or a car- and need to be associated later with the blockchain. The issue is that the blockchain will take such recording as authoritative and the information linked to the new asset as true. However, there can be some mistakes regarding such information. So also if, taking as an example the selling of a painting minted as an NFT, the buyer will be able to have access to the information linked to such NFT, these will be incorrect. Therefore, “the veracity of the record depends on the trustworthiness of third parties: those who tag, map and register off-chain assets”.<sup>140</sup>

This issue is identified as the “the Garbage in, Garbage Out’ Problem”, which refers to the authenticating abilities of the blockchain. As everyone can store data in the blockchain, it is also possible that a subject that does not have the ownership rights to register a work of art as an NFT decides to do so. However, due to the characteristic of the blockchain technology, once a token is created, it is “extremely difficult to get rid of it because blockchain is a permanent store of information, hence, when information is added it cannot be taken away”.<sup>141</sup> This means that if some registered NFTs are taken down from the blockchain, they will still exist in the history of Ethereum. There is still a lack of clarity about what creates the immutability of the blockchain<sup>142</sup> as it can be linked to both the proof of authenticity mechanism, or the cryptography or also the systems of “blocks” that makes every transaction very difficult to modify.

Therefore, when affirming that the blockchain is immutable and provides proof of authenticity of every asset it stores, we should be careful and analyze what type of blockchain we are referring to, what kind of information it stores, and where such information comes from. Indeed, if the recorded data is incorrect, the whole purpose of affirming his authenticity seems to lack his initial aim.

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<sup>140</sup> Ibid 2, 172

<sup>141</sup> F. Liddell, “Disrupting the Art Museum Now !’: Responding to the NFT Social Experiment’, 16 March 2021, blogpost, <<https://www.culturalpractice.org/article/disrupting-the-art-museum-now-responding-to-the-nft-social-experiment/>> accessed 6 April 2022

<sup>142</sup> Angela Walch, ‘The Path of the Blockchain’, (2016-2017), 742

## Section 3: NFTs related to artworks

- 3.1 The phenomenon of Crypto Art: digital auctions and digital trade of NFTs
- 3.2 The case of GAM and Rijksmuseum: the tokenization of Rembrandt's painting
- 3.3 Copyright law applied to NFTs in the art world

For the purpose of this thesis, we will focus on NFTs related to artworks in order to discuss copyright law issues. The first focus will be on NFTs pertaining to painting and crypto art. In the fourth section, we will focus on NFTs related to music content, while the fifth section will focus on NFTs related to the sports industry. Both NFTs represent works of art, but their content differs and provides their owners with specific rights and benefits. We will specifically focus on such rights and their impact on copyright law.

### 3.1 The phenomenon of Crypto Art: digital auctions and digital trade of NFTs

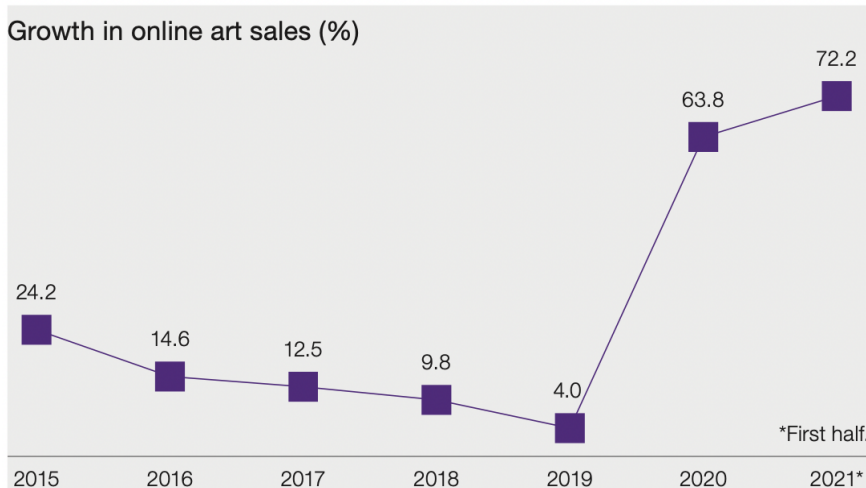
Nowadays, crypto art is gaining fundamental importance in the world of art and is recognized as a proper form of expression. Since the sale of “Everydays: the First 5000 days” by the digital artist Beeple, operated in 2017 by Christie's, for \$ 69.3 million<sup>143</sup>, crypto art has exploded. As explained by Alexandra Kinderman, Senior Communications Director at Christie's, the particularity of such a painting is «the mere fact that he is able to represent 13 years of artistic evolution into a single image and that speaks to the limitless nature of digital art».<sup>144</sup> Online art sale has indeed exploded in the last two years, generating \$6.8 billion in the first half of 2021 and was expected to hit \$13.5 billion by the end of 2022<sup>145</sup>.

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<sup>143</sup> Beeple's opus, Christie's, available at: <https://www.christies.com/features/Monumental-collage-by-Beeple-is-first-purely-digital-artwork-NFT-to-come-to-auction-11510-7.aspx>, accessed 22 December 2021

<sup>144</sup> Smita Tripathi, “How NFTs are Disrupting the Art World” (February 2022), <<https://www.businesstoday.in/magazine/luxury-lifestyle/story/how-nfts-are-disrupting-the-art-world-321706-2022-02-15>>, accessed 13 march

<sup>145</sup> Hilcox Art Trade 2021 Report



<sup>146</sup> Growth in online art sales (%)

This type of art is linked to the blockchain, which allows digital works of art to be bought, sold, or collected in a decentralized way. This “new art” is indeed stored in

blockchain through NFT. Crypto art can be defined as «art on the blockchain — natively published as an NFT.»<sup>147</sup> However, Crypto art must be differentiated from digital art – which refers to the use of software and digital devices to produce a work of art.<sup>148</sup> Moreover, what is relevant to precise is that recently the NFT market has been entering a new phase with the development of more-mass production rather than single-generated images. Indeed, the more famous NFT artwork are CryptoPunks, Bored Ape Yacht Club, and CryptoKitties.<sup>149</sup> Furthermore, many auction houses started selling NFTs and opened blockchain platforms. Indeed, amount all auction houses, Sotheby’s emerged as the leader in 2021 by accounting for 65% of the \$671 million in overall sales<sup>150</sup> made by the big three auction houses -Sotheby’s, Christie’s and Philipps. Such development is partly due to the COVID-19 pandemic that enhanced the urge to find alternative ways to sell art.

The development of blockchain technology, as well as NFTs, is responsible for an increase in the popularity of crypto art and collectibles. Indeed, the sales of crypto NFTs reached \$3.5 billion in 2021.<sup>151</sup> The development of such a new artistic wave is particularly favourable for artists as they can increase their profits in the selling of their work. Indeed, when they sell their work through galleries, they typically get 50% of the sale amount, and the other 50% goes to the gallery. However, when selling their work minted as an NFT, they will generally earn 80% of the selling price. Artists are also

<sup>146</sup> Ibid 1

<sup>147</sup> “NFTs and the Art Industry: A Cryptoart Revolution”, Cryptopedia, (January 18, 2022), <<https://www.gemini.com/cryptopedia/blockchain-fine-art-nft-marketplace>>, accessed 18 May 2022

<sup>148</sup> Ibid 1

<sup>149</sup> Hilcox Art Trade 2021 Report, 2

<sup>150</sup> Ibid 1, 2

<sup>151</sup> Ibid 2, 28

entitled to have 10% of every future sale of their work.<sup>152</sup> These funds are automatically transferred to the artist at the moment of further sales as they are included in the smart contracts that run the sale.<sup>153</sup> So far, NFTs and online marketplaces can bring artists multiple advantages, such as royalties on every future sale of their work and independency for the display and selling of their art. Moreover, the structure of NFTs -the fact that they are unique and recorded on the blockchain- provides a sense of authenticity to digital art artists and encourages them to share their performative works through an “online canvas.”<sup>154</sup> The resale right is known as *droit de suite* and ensures that «artists receive a small percentage of the sale price of a work when it is resold.»<sup>155</sup> The *droit de suite* is recognized by Article 14-*ter*<sup>156</sup> of the Berne Convention for the Protection of Literary and Artistic Works as well as the *Directive 2001/84/EC of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art*. However, Recital 2 of such Directive affirms that «the subject-matter of the resale right is the physical work, namely the medium in which the protected work is incorporated.» Therefore, the Directive does not apply to the resale of NFTs. However, there are some types of NFTs that could meet those requirements -for example, a signed copy of a painting- but at this stage, we cannot apply such a Directive to every type of NFT. Consequently, if artists have the right to receive resale rights, it is because such rights are included in the terms and conditions linked to their NFT.

There are several art platforms that allow artists to sell their work. The main ones are OpenSea, NiftyGate, SuperRare, Foundation, and others. While the first trading platforms require<sup>157</sup>, in order to accept an artist’s work, a selection procedure, Foundation is unique as artists can be invited to trade their art on platforms by other artists. Normally, the selection procedure for other platforms is based on an invitation from crypto art galleries, an evaluation of artists' work by art curators, or the observation of the marketplace's evolution.<sup>158</sup> However, Foundation is highly innovative as it has an open architecture and allows experts to trace the «dynamics of creating, bidding, buying, and selling

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<sup>152</sup> “NFTs and the Art Industry: A Cryptoart Revolution”, Cryptopedia, (January 18, 2022), <<https://www.gemini.com/cryptopedia/blockchain-fine-art-nft-marketplace>>, accessed 18 May 2022

<sup>153</sup> Ibid 1

<sup>154</sup> William Holmes, ‘What the NFT Craze Means for IP Law’ (Legal Cheek, 12 March 2021) <<https://www.legalcheek.com/lc-journal-posts/what-the-non-fungible-token-craze-means-for-ip-law/>> accessed 20 May 2022

<sup>155</sup> Catherine Jewell, “The artist’s resale right: a fair deal for visual artists”, WIPO Magazine, (June 2017), <[https://www.wipo.int/wipo\\_magazine/en/2017/03/article\\_0001.html](https://www.wipo.int/wipo_magazine/en/2017/03/article_0001.html)> accessed 22 May 2021

<sup>156</sup> “The author, or after his death the persons or institutions authorized by national legislation, shall, with respect to original works of art and original manuscripts of writers and composers, enjoy the inalienable right to an interest in any sale of the work subsequent to the first transfer by the author of the work.”

<sup>157</sup> Nadini, “Mapping the NFT revolution: market trends, trade networks, and visual features”, Scientific reports, (October 2021)

<sup>158</sup> Vasan, Janosov, Barabási, “Quantifying NFT-driven networks in crypto art”, Scientific reports, (February 2022), 1



art.»<sup>159</sup> In that way, it is possible to analyze the relationship between artists, artworks, and collectors when dealing with crypto art.

Lastly, crypto art can also be produced with the help of artificial intelligence (AI) systems. Using AI for production or assistance in creating artworks is particularly relevant when dealing with copyright law. Indeed, if the work is the product of AI, the output may lack human contribution and intervention.<sup>160</sup> The European Commission defines AI as «systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals.»<sup>161</sup> The most famous NFT work of art produced by AI are CryptoPunks and the Bored Ape Yacht Club. In these cases, the production of the NFT is strictly linked to an algorithm that shapes the work and creates specific features for every NFT, such as changing components for particular characters.<sup>162</sup> Therefore, if the work lacks a relevant human intervention and the output is strictly the result of AI intervention, no copyright protection can be claimed for such works as the originality standards are not met.<sup>163</sup>

The Covid-19 pandemic has allowed crypto art to significantly developed. Indeed, as during Covid-19, public auctions and museums were closed, the art market had to find a solution to continue selling works of art and allow public access to culture. To do so, museums and galleries decided to concentrate their operations online through free access to their exhibitions or with the organisation of online auctions. After witnessing this phenomenon, we should wonder what are nowadays the options for museums and galleries to monetise their content through digital operations.<sup>164</sup> An interesting option for cultural institutions would be to use crypto art and NFTs to commercialise digital copies of their artworks.<sup>165</sup> However, there are still some concerns related to such an option as «depending on your perspective, Non-Fungible Token (NFT) artworks are inaugurating an exciting new chapter in the history of art or a dangerous new chapter in the history of online market bubbles».<sup>166</sup> Indeed, NFTs should be seen as a tool that could allow institutions to organize an online virtual tour of their exhibit and sell paintings -minted as NFTs. Such non-fungible tokens represent an asset, not a threat to museums, as they protect the need for museums to maintain ownership of their works. Indeed,

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<sup>159</sup> Ibid 1, 1

<sup>160</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids your’re looking for”, European Intellectual Property Law Review, (January 2022), 19

<sup>161</sup> Artificial Intelligence for Europe, COM(2018) 237 final, 1

<sup>162</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids your’re looking for”, European Intellectual Property Law Review, (January 2022), 19

<sup>163</sup> Ibid 1, 19

<sup>164</sup> Eva Nieto McAvoy, Jenny Kidd, “Crypto art and questions of value: a review of emergent issues”, The Creative Industries Policy and Evidence Centre (November, 2022), 11

<sup>165</sup> Ibid 1, 11

<sup>166</sup> Ibid 3, 11

«without a system of ownership such as NFTs, digital assets remain infinitely replicable and therefore without value. In this space, copyright laws and copyright claims would be the only tool with which to protect the exclusivity of an exhibit in a virtual museum».<sup>167</sup>

Although some might still question the purpose or the utility of NFTs, a successful partnership between the British Museum and a French NFT platform called “LaCollection” is a perfect example of how museums could use digital collectibles to both improve in the digital world their visibility and their revenues. The selling of NFTs through such partnership coincides with an art exhibition organised by the British Museum in honour of the Japanese artist Hokusai called “Hokusai: The Great Picture of everything”. The purpose of the collaboration was to sell, as NFTs, 200 Hokusai works, minted directly by the platform LaCollection. Indeed, the partnership offers NFTs minted using digital images of works shown in the exhibition<sup>168</sup>- such as the famous Hokusai’s work “The Great Wave”- and others that directly comes from the museum's private collection. All of the works are then sold on LaCollection platform through an auction or at a fixed price<sup>169</sup> and can be bought through cryptocurrencies or even with credit cards.<sup>170</sup> The collectibles are divided into several categories based on their level of scarcity: from “unique”, which includes a single NFT of the most famous work of the artist; to “ultra rare”, which includes only 2 NFTs; “limited” with 1000 NFTs; and then “common” with 10,000 NFTs<sup>171</sup>.

On its Terms and Conditions, the platform specifies that they use the term “artwork” to refer to the «digital image of the original artwork (which could be either a physical artwork or a digital artwork), available within the Service».<sup>172</sup> Moreover, regarding intellectual property rights, the platform clearly states that «buying an artwork on the platform does not mean that the user becomes the holder of the intellectual property rights attached to the artwork. If the artwork relates to a physical object, the user has no rights of ownership in that physical object.»<sup>173</sup> Therefore, as the NFTs minted by the platform

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<sup>167</sup> Alistair Hardaker, “Making Sense of NFTs in Museums”, Museums + Heritage Advisor, (27 January 2022), <<https://advisor.museumsandheritage.com/features/making-sense-nfts-museums/>>, accessed 15 February 2023

<sup>168</sup> Georgina Adam, “British Museum to sell NFTs of 200 Hokusai works—including The Great Wave”, The Art Newspaper, (24 September 2021), < <https://www.theartnewspaper.com/2021/09/24/british-museum-to-sell-nfts-of-200-hokusai-worksincluding-the-great-wave>>, accessed 17 February 2023

<sup>169</sup> Margherita Cole, “103 Unpublished Hokusai Drawings Featured in New Exhibit and 200 NFTs of His Works Will Be Sold”, My Modern Met. (7 October 2021), < <https://mymodernmet.com/british-museum-hokusai-exhibition-and-nft-sales/>>, accessed 17 February 2023

<sup>170</sup> Eva Nieto McAvoy, Jenny Kidd, “Crypto art and questions of value: a review of emergent issues”, (November, 2022), 12

<sup>171</sup> Georgina Adam, “British Museum to sell NFTs of 200 Hokusai works—including The Great Wave”, The Art Newspaper, (24 September 2021), < <https://www.theartnewspaper.com/2021/09/24/british-museum-to-sell-nfts-of-200-hokusai-worksincluding-the-great-wave>>, accessed 17 February 2023

<sup>172</sup> LaCollection Terms and Conditions, <[https://lcollection.io/terms\\_and\\_conditions](https://lcollection.io/terms_and_conditions)>, accessed 18 February 2023

<sup>173</sup> Ibid 1

are generally associated with well-known works of art displayed by famous museums, such a specification is aimed at clarifying that the NFT of a famous paint does not grant the buyer a right on the paint itself but only on the NFT. The buyer is not acquiring the physical object, the famous artwork, but an NFT minted using such a painting. LaCollection also specifies that «the user is granted a limited, worldwide, non-assignable, non-sublicensable, royalty-free license to display the artwork legally owned and property obtained on the marketplace. This right includes the right to display or perform the artwork privately or publicly for the purpose of promoting or sharing the user’s ownership or interest in the artwork».<sup>174</sup> Moreover, according to the Terms and Conditions of the platform, «users have the right to exhibit their artworks online for non-commercial purpose, and/or sell and/or transfer their artworks but cannot make any commercial use of the artwork including for example by selling copies, selling access to an artwork, selling derivative works embodying the artwork, or otherwise commercially exploiting the artwork.»<sup>175</sup> Finally, LaCollection clearly states that «all intellectual property rights attached to any content published on the website, excluding the content generated by the users, are the property of LaCollection or its partners, and are provided free of charge to users, within the exclusive framework of the use of the website. Therefore, any unauthorised use of these contents is unlawful.» The Terms and Conditions of the platform are clear and leave no doubt about what the rights buyers are granted when acquiring an NFT. They do not own the physical object associated with the NFT but only the NFT itself and can exhibit the artwork they have acquired only for non-commercial purposes. Users can only later sell their artwork to another buyer, and if so, their rights connected to such NFT will then end.

After the first sale of an NFT, it is reasonable to consider that a secondary market can emerge, allowing initial buyers to sell their NFTs in the same or on other platforms -such as Opensea. In the case where a resale would occur, the agreement between the British Museum and LaCollection states that 10% of the resale would go to the Museum and 3% to LaCollection.<sup>176</sup> According to the founder of LaCollection, Jean-Sébastien Beaucamps, this operation is «a way of helping museums attract a younger, more diverse and more international public»<sup>177</sup>. Indeed, he believes that NFTs allow art to be democratised<sup>178</sup>. However, to reach such a goal, I believe that it is necessary that museums or

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<sup>174</sup> Ibid 2

<sup>175</sup> Ibid 3

<sup>176</sup> Georgina Adam, “British Museum to sell NFTs of 200 Hokusai works—including The Great Wave”, The Art Newspaper, (24 September 2021), < <https://www.theartnewspaper.com/2021/09/24/british-museum-to-sell-nfts-of-200-hokusai-worksincluding-the-great-wave>>, accessed 17 February 2023

<sup>177</sup> Ibid 1

<sup>178</sup> Ibid 2

galleries that display and own the art minted as NFTs express their agreement to mint such art pieces. Indeed, the success of the partnership between the British Museum and LaCollection mainly relies on the fact that the Museum agreed to participate in the selling and minting of the NFTs. It is indeed «the prestige of buying from the British Museum that brings in buyers that would not necessarily be attracted to the NFT space»<sup>179</sup>. It is the combination of the two – the British Museum and LaCollection- that allows the partnership to be successful. Indeed, the platform manages the technology and follows the minting process while the museum brings in its credibility. This partnership can open the way for future collaborations between renominate institutions and online platforms and is indeed seen by LaCollection as «a long-term project ‘to showcase artists and institutions with strong historical values’ that will, outlast more hyped designs like Cryptopunks and Bored Apes».<sup>180</sup>

The idea of LaCollection is successful and attracts more museums, as shown by the recent partnership between the platform and the Museum of Fine Arts in Boston. Indeed, in February 2023, the platform offered several NFTs of «high-quality versions of rarely exhibited French pastels by artists like Claude Monet, Edgar Degas, and Jean-François Millet. Proceeds from the sale will support the conservation of two paintings by Degas.»<sup>181</sup> The NFTs are divided into three categories: rare, super rare and unique. What is interesting to notice is that every category offers buyers also some rewards linked to the exhibition. The rare NFTs are indeed associated with an invitation to participate to the viewing of some rarely seen pastels from the Museum of Fine Arts in Boston. In addition to the invitation, the super rare also provides a «premium fine art print of the digital collectible printed at the Museum of Fine Art with state-of-the-art technology».<sup>182</sup> Lastly, in addition to the benefits provided by the super rare NFTs, unique NFTs also offer access to the museum’s various memberships programs. Therefore, in the digital world, we are progressively witnessing the phenomenon where the selling of NFTs is often associated with additional benefits that grant buyers supplementary rights linked to the item their purchase.

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<sup>179</sup> Eva Nieto McAvoy, Jenny Kidd, “Crypto art and questions of value: a review of emergent issues”, (November, 2022), 12

<sup>180</sup> Ibid 1, 12

<sup>181</sup> LaCollection, < <https://lcollection.io/fine-art/freemint-mfa/gallery>>, accessed 18 February 2023

<sup>182</sup> Eva Nieto McAvoy, Jenny Kidd, “Crypto art and questions of value: a review of emergent issues”, (November, 2022), 12

### 3.2 The case of GAM and Rijksmuseum: the tokenization of Rembrandt's painting

In the art world, NFTs are raising several concerns, especially in copyright law. These challenges can be illustrated by a recent fact regarding Global Art Museum (GAM) and Rijksmuseum. GAM defines itself as «an art initiative that aims to transform grand Old Masters, from the Renaissance to Neoclassicism, into NFTs.»<sup>183</sup> They sell unique painting and affirms they will give 10% of such sales to the museum that owns the painting.

What happened is that during the beginning of the pandemic, the independent art seller GAM decided to tokenize Rembrandt's painting "Night Watch", which was exhibited in the Rijksmuseum. This tokenization was possible as, during the COVID-19 pandemic, the museum offered a digital version of its art to still allow the public access to it. What GAM did was tokenize a version of such a painting made available by the museum and then sell it online as an NFT. However, the museum declared that it never expressly authorized such tokenization or selling. Indeed in a Tweet,<sup>184</sup> the Rijksmuseum declared that «we do not have a partnership with any of these parties. Our collection is for everyone. We have an Open Data Policy to connect our collection to as many and diverse people as possible.» GAM replied by affirming<sup>185</sup> that «We do not have any written agreements with museums. As we mentioned, the works are Open Access- anyone has the right to use these works for educational or commercial use. We are a startup that disrupts the museum industry by sharing the revenues with them from the NFT space. »

The case of GAM is handy for understanding the main questions regarding copyright law when dealing with NFTs. From the legal perspective, it can be argued that the rights of the painting are protected under copyright law, as Rijksmuseum is supposedly the owner of such copyright. However, the copyright could also be considered expired because the museum has made the painting publicly available on the internet. Therefore, it is questionable if GAM is authorized to legally tokenize such

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<sup>183</sup> Andres Guadamuz, "Copyfraud and copyright infringement in NFTs", TechnoLlama, (14 March 2021), <<https://www.technollama.co.uk/copyrfracud-and-copyright-infringement-in-nfts>>, accessed 25 May 2022

<sup>184</sup> Sarah Cascone, "A Collective Made NFTs of Masterpieces Without Telling the Museums That Owned the Originals. Was It a Digital Art Heist or Fair Game?", Artnet (22 March 2021), < <https://news.artnet.com/art-world/global-art-museum-nfts-1953404>>

<sup>185</sup> Ibid 1

artwork and sell it despite not being its copyright owner -although it has been made available online by the museum.

Is this behaviour an infringement of copyright law? The answer is linked to how GAM obtained such a digitalized copy of Night Watch. Indeed, as it was available on the museum's website, GAM made a reproduction of such artwork that falls within Article 2 of the *Information Society Directive*.<sup>186</sup> Furthermore, under copyright law, once the copyright on a work of art has expired, the work of art can be copied and reproduced. However, in European countries, «copyright protects your intellectual property until 70 years after your death or 70 years after the death of the last surviving author in the case of a work of joint authorship»<sup>187</sup>.

In the Rembrandt case, the company defended itself by affirming that the Rijksmuseum established an open data policy regarding its digital collection. Indeed, the museum provides access to its digital images and metadata without specific restrictions for possible reuse by third parties.<sup>188</sup> On his website, the museum explicitly specifies that users can “use digital reproductions of public domain objects made available by the Rijksmuseum without permission being required. For commercial purposes too”. Therefore, according to the museum policies, anyone is free to download Rijksmuseum images and use them in the way they want. So, GAM argued that they could use the Nigh Watch painting also for commercial purposes and turn it into NFTs that can be sold in the market. The legality of such use is thus linked to a question of permission. We should then ask ourselves if, in the case where the policies of museums allow the copy and commercial use of digital images linked to paintings, the creation of NFTs can lead to a violation of copyright law. Indeed, according to the open policies established by Rijksmuseum, GAM is not required to inform them of the use they are making from the picture turned into NFTs.

However, we should wonder if such behaviour could be seen as a copyfraud as GAM tokenized Rembrandt's painting without the express authorization of the Museum that displays the painting. The painting is a work that falls within the public domain. It is thus possible to take a picture of it when visiting the museum or download its image on its website. The definition of the public domain is allowing everyone to benefit from such paintings without asking and obtaining permission. It refers

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<sup>186</sup> “Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part: (a) for authors, of their works”.

<sup>187</sup> “Copyright”, (Your Europe) < [https://europa.eu/youreurope/business/running-business/intellectual-property/copyright/index\\_en.htm](https://europa.eu/youreurope/business/running-business/intellectual-property/copyright/index_en.htm)>, accessed 8 March 2022

<sup>188</sup> F. Liddell, “Disrupting the Art Museum Now !’: Responding to the NFT Social Experiment’, 16 March 2021, blogpost, < <https://www.culturalpractice.org/article/disrupting-the-art-museum-now-responding-to-the-nft-social-experiment/>> accessed 6 April 2022

to «creative materials that are not protected by intellectual property laws such as copyright, trademark, or patent laws.»<sup>189</sup> So it's the public that owns such works defined as “public domain.” Therefore, GAM can use the photograph of the painting and tokenize it without infringing copyright law. Indeed, GAM clearly specifies that the artwork is exhibited at Rijksmuseum, and they are selling a photograph of such a painting available on the museum's website. Therefore, there is no copyfraud in the tokenization of “Night Watch” as GAM does not claim the ownership of the painting but only the minting of a version -a photograph- of such work.<sup>190</sup> Nonetheless, one might ask what could be the purpose of buying an NFT of a picture of a painting that can easily be viewed on the Rijksmuseum website and that is of the public domain, but this is another question.

A recent project that echo's GAM procedure is the creation of the Rembrandt Meta Museum. Indeed, recently the Rembrandt Heritage Foundation decided to support the creation of a virtual museum dedicated to Rembrandt. In order to finance this project, a collection of 8000 NFTs was created. Such tokens are based on Rembrandt's painting “The Night Watch”, which is divided into small frames that represent unique parts and details of the original painting and that are minted as NFTs.<sup>191</sup> Therefore, every NFT is unique and is a small representation of the final Rembrandt's artwork -measuring approximately 2,5 cm of the painting<sup>192</sup>. The goal of such an operation is, according to the Rembrandt Heritage Foundation, to preserve Rembrandt's work and to make his paintings available to anyone at any time. When acquiring a Meta Rembrandt NFT, buyers will access -according to the Foundation- exclusive benefits. These are mainly divided into 3 categories: “founding member”: buyers will be granted the opportunity of being recognized as a founding member of the Meta Rembrandt Museum and therefore be able to have exclusive access to Rembrandt's collection; “walk of fame”: as buyers will be able «to mark their name in the blockchain domain and join the community with other founders of the project»<sup>193</sup> and “rent out your NFT”: where buyers will be able to rent their NFT to others Rembrandt fans in order to allow them to also access have to the exclusive collection items.

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<sup>189</sup> Rich Stim, “Welcome to the Public Domain”, Copyright & Fair Use, Stanford Libraries, <<https://fairuse.stanford.edu/overview/public-domain/welcome/>>, accessed 27 May 2022

<sup>190</sup> Andres Guadamuz, “Copyfraud and copyright infringement in NFTs”, TechnoLlama, (14 March 2021), <<https://www.technollama.co.uk/copyrfraud-and-copyright-infringement-in-nfts>>, accessed 25 May 2022

<sup>191</sup> Meta Rembrandt < <https://docs.hodl.finance/the-hft-token/tier-system/metarembandt>>, accessed 20 February 2023

<sup>192</sup> “A Nightwatch NFT? Foundation aims to fund virtual Rembrandt museum”, DutchNews (11 August 2022), <<https://www.dutchnews.nl/news/2022/08/a-nightwatch-nft-foundation-aims-to-fund-virtual-rembrandt-museum/>>, accessed 23 February 2023

<sup>193</sup> “NFT holder perks”, Meta Rembrandt, < <https://www.metarembandt.com>>, accessed 20 February 2023

Once sold, the NFTs will be able to be traded on other platforms -such as OpenSea- and therefore generate a secondary market. The idea of the Rembrandt Meta Museum is a good example that shows how NFTs can be used to finance innovative artistic projects and preserve art. Indeed, the ultimate goal of this operation was, according to Jess Muntanaar, COO of HODL Finance, who co-financed the project, to «digitally reconstructed and captured all the paintings of Rembrandt in high definition and make them accessible to everyone. In this way, Rembrandt will always exist, and all future generations will continue to learn about this world-famous painter. We believe that digital art is the future and that the rise of NFTs will play a big role in this. We hope this unique Rembrandt project will be an inspiration for the art sector to think about how art can be modernized.»<sup>194</sup>

After analyzing both the GAM case and the Rembrandt Meta Museum projects, we can conclude that the interest in Rembrandt's works in the NFTs "environment" is pretty high. However, the use of such a work is different in the two cases we analyzed. On the one hand, in the GAM case, the platform decided to take a picture on the Rijksmuseum website, mint such a picture and sell it as an NFT -and give 10% of every sale to the museum. On the other hand, the Rembrandt Heritage Foundation decided to mint 8,000 NFTs based on "The Night Watch" painting -the same that GAM used- to finance the creation of a Rembrandt virtual museum. The ultimate goal of such an operation is to ensure that every painting of Rembrandt will be properly photographed and scanned and then shown in a virtual museum to the public. Consequently, the paintings could be preserved, and anyone could potentially have access to the pictures displayed in the virtual museum.

Therefore, these two examples have shown us that NFTs are progressively entering the art world and are becoming essential tools for museums, galleries, and artists to preserve and sell their work. Platforms often help such individuals to reach potential customers, but as our current legal framework lacks specific regulations that tackle such operations, we should then wonder what copyright laws we could apply to NFTs in the art world.

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<sup>194</sup> "Rembrandt's First Official NFTs of 'The Night Watch' to be Released by The Rembrandt Heritage Foundation at the MetaRembrandt Museum", World Art News, (10 August 2022), < <https://worldart.news/2022/08/10/rembrandts-first-official-nfts-to-be-released-by-rembrandt-heritage-foundation/#respond>>, accessed 23 February 2023



### 3.3 Copyright law applied to NFTs in the art world

When dealing with crypto art and NFTs, we face a significant issue regarding copyright law. Indeed, there is vast uncertainty regarding what types of rights are granted to buyers when purchasing an NFT<sup>195</sup> related to crypto artworks. Furthermore, such uncertainty also regards the rights still entitled to artists. Such questions are associated with the complex relationship between NFTs and copyright law and the question if NFTs could be protected under copyright law. To determine whether GAM's behavior could be seen as a copyright infringement, we should first examine the copyright implication of the hyperlinking phenomenon. Indeed, for the purpose of this thesis, it is relevant to say that there are exceptions to copyright rules when dealing with hyperlinks -which is the fact of putting an interface on a website that links directly to a specific document. At first, within the European legal framework, hyperlinks weren't considered to violate copyright law. Indeed, in *BestWater International GmbH v Michael Mebes and Stefan Potsch*, the European Court of Justice stated that «the embedding in a website of a protected work which is publicly accessible on another website by means of a link using the framing technology ... does not by itself constitute communication to the public within the meaning of [the EU Copyright directive] to the extent that the relevant work is neither communicated to a new public nor by using a specific technical means different from that used for the original communication».<sup>196</sup> So, hyperlinking was not considered a copyright violation at first. However, in the case of *GS Media BV v Sanoma Media Netherlands BV and Others*, the European Court of Justice redefined its approach regarding hyperlinks. The innovation came from the fact that in such a case, the hyperlink was redirecting to copyright material that was not publicly accessible. Indeed, such a case dealt with a fact that happened in 2011 when *Geenstijl*, a Dutch blog website, anonymously received some pictures there were supposed to figure in the next Dutch issue of *Playboy Magazine*, published by the Sanoma media group. Aware of such a leak, Sanoma requested the blog not to post the pictures. However, *Geenstijl* did not respect such a request and published a hyperlink on their blog that redirected to *File Factory* where, by clicking on it, the pictures could be seen and downloaded. Therefore, Sanoma requested *FileFactory* to delete such a link and succeeded in her request. However, *Geenstijl* created a second and then a third hyperlink to such pictures. The case deals with whether the phenomenon of hyperlinking, when it involves the publication of content without the copyright owner's consent, could be seen as a

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<sup>195</sup> Andres Guadamuz, "Non-fungible tokens (NFTs) and copyright", *WIPO Magazine*, (December 2021), 2

<sup>196</sup> *BestWater International GmbH v Michael Mebes and Stefan Potsch* (2014), (C-348/13), European Court of justice (European Court of Justice), (ECLI:EU:C:2014:2315)

“communication to the public” under Article 3 of the Directive 2001/29/EC<sup>197</sup>. Such Article states that «Member States shall provide authors with the exclusive right to authorize or prohibit any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them. Member States shall provide for the exclusive right to authorize or prohibit the making available to the public, by wire or wireless means, in such a way that members of the public may access them from a place and at a time individually chosen by them (...)). The Second Chamber of the European Court of Justice affirmed that «Article 3(1) of Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society must be interpreted as meaning that, in order to establish whether the fact of posting, on a website, hyperlinks to protected works, which are freely available on another website without the consent of the copyright holder, constitutes a ‘communication to the public’ within the meaning of that provision, it is to be determined whether those links are provided without the pursuit of financial gain by a person who did not know or could not reasonably have known the illegal nature of the publication of those works on that other website or whether, on the contrary, those links are provided for such a purpose, a situation in which that knowledge must be presumed.»<sup>198</sup>. Therefore, the posting of an unauthorized hyperlink, which involves an illegal financial gain, and that redirects to an unlawful publication, constitute an infringement -as it can be recognized as a communication to the public- in the case where the publisher is aware that such publication is illegal and go against the willing of the copyright owner. As stated by Professor Balazs Bodo et al., «the posting of such a link only gives rise to liability if the person posting the link is not the rightsholder of the work in question. In other words, issues of liability arise predominantly for users that mint NFTs from digital objects for which they have no valid copyright ownership claim and for follow-on purchasers of those NFTs».<sup>199</sup>

The concept of the new public is also strictly linked to hyperlinking and to the right of communication to the public. The new audience can be defined as the «public that copyright holders had not taken into account when authorizing the initial communication of the work.»<sup>200</sup> The right of communication

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<sup>197</sup> Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society

<sup>198</sup> GS Media BV v Sanoma Media Netherlands BV and Others, Judgement of the European Court of Justice (Second Chamber), Case C-160/15, (8 September 2016), <<https://curia.europa.eu/juris/document/document.jsf?docid=183124&text=&doclang=EN&pageIndex=0&cid=9039995>>

<sup>199</sup> Bodo, Giannopoulou, Mezei, Quintais, “The Rise of NFTs: These aren’t the droids your’re looking for”, European Intellectual Property Law Review, (January 2022), 26

<sup>200</sup> Stavroula Karapapa, “The requirement for a “new public” in EU copyright law”, European Law Review, (2017), 1

to the public is established by *Article 3(1) of Directive 2001/29/EC*, which clearly states that any unauthorized communication to the public of an artist's works or also making available to the public such a work, represents an infringement. The concept of the new audience is particularly relevant when dealing with the communication of work in a digital environment. Indeed, such an environment upsets the traditional codes of communication, making it highly complex for an artist to control his work's communication process. Indeed, if a work is shared on a website, such a website can easily be accessed from another. Thus, the fact that the work initially communicated by the copyright owner can quickly be retransmitted to other parts raises several considerations when dealing with respect of the right of communication of the work. Indeed, in the digital world, it seems that the artist can control only when communicating the work -the time and the place- but not who has then access to such work.

According to the European Court of Justice<sup>201</sup>, an unauthorized act of communication to a “new public”- who was not been taken into consideration by the artist when initially communicating his work- can be seen as an infringement. In order to determine if an infringement occurred, we should not focus on the distinction between public and private audiences but rather on the legitimate interest of the copyright owner to commercially exploit his work. Thus, to establish if an infringement occurred, we should consider whether communication to the “new public” has a profit or a non-profit nature.

Moreover, when dealing with the digital environment, hyperlinks can constitute an infringement only if they are considered an act of communication addressed to the public. In *Svensson's case*<sup>202</sup>, the concept of “new public” interferes with the phenomenon of hyperlinking. Indeed, the main issue was determining if some internet links on a company website were redirecting users to works that were available for free, which could be seen as an “act of communication”<sup>203</sup> under Article 3(1) of *Directive 2001/29/EC*.

The Court highlighted that communication could be compared to making works available to " a public in such a way that the persons forming that public may access it, irrespective of whether they avail

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<sup>201</sup> *Ibid* 1, 3

<sup>202</sup> *Nils Svensson and Others v Retriever Sverige AB*, Judgment of the European Court of Justice (Fourth Chamber), Case C-466/12, (13 February 2014)

<sup>203</sup> Tana Pistoriu, “Intellectual Property Perspectives on the Regulation of New Technologies”, *ATRIP Intellectual Property series*, (2018), 190

themselves of that opportunity.”<sup>204</sup> Thus, the court concluded that “the provision of clickable links to protected works must be considered to be ‘making available’ and, therefore, an ‘act of communication.’”<sup>205</sup>

The Svensson case is crucial to establish what can be considered a form of communication to a new public when dealing with the phenomenon of hyperlinking. Indeed, the Court affirmed that in circumstances when the work in question is communicated by employing a clickable link that allows users to access a work directly on a website, «without the involvement of the manager of that other site, the users of the site managed by the latter must be deemed to be potential recipients of the initial communication and, therefore, as being part of the public taken into account by the copyright holders when they authorized the initial communication.»<sup>206</sup> Therefore, the Court concluded that when there is a website that provides a link that redirects users to a work that is freely available on another website, this behaviour “does not constitute an act of communication to the public”.<sup>207</sup>

Therefore, the Court's position stresses that the use of hyperlinks do not infringe copyright rule if they redirect users to freely accessible content. However, if such content is made available to users by bypassing the «restrictions put in place by the site on which the protected work appears in order to restrict public access to that work to the latter site’s subscribers only, and the link accordingly constitutes an intervention without which those users would not be able to access the works transmitted, all those users must be deemed to be a new public.»<sup>208</sup> The infringement thus occurs if the hyperlink redirects users to protected content, using elusive measures to do so.

We should wonder to what extent copyright law could apply to NFTs because also if these are linked to metadata, they still mainly refer -and especially in the crypto art world- to content that can qualify as a ‘work’ under copyright law.<sup>209</sup>

Copyright law includes «literary works, musical works, artistic works, sound recordings, cinematography (audio-visual), and broadcasts.»<sup>210</sup> The adoption of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in 1994, as well as The Berne Convention for the

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<sup>204</sup> Nils Svensson and Others v Retriever Sverige AB, Judgment of the European Court of Justice (Fourth Chamber), Case C-466/12, (13 February 2014), Recital 19

<sup>205</sup> Ibid 1, Recital 20

<sup>206</sup> Ibid 2, Recital 27

<sup>207</sup> Ibid 3, Recital 32

<sup>208</sup> Ibid 4, Recital 31

<sup>209</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids your’re looking for”, European Intellectual Property Law Review, (January 2022), 18

<sup>210</sup> Ifeanyi E. Okonkwo, “NFT, copyright and intellectual property commercialization”, International Journal of Law and Information Technology, (22 November 2021), 298

Protection of Literary and Artistic Works intellectual property (Berne Convention) in 1886, made it possible to include under copyright law the protection of basically the same types of works in the most countries of the world.<sup>211</sup> Articles from 8 to 15 of the Berne Convention settle the rights that refer to copyright works. Such rights include the right to translate, the right to make adaptations, the right to perform in public, the right to communicate to the public, the right to broadcast...<sup>212</sup> TRIPS relates to the same rights and affirms in Article 9.2 that «Copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such.» Therefore, once a work of art is protected under copyright law, the author is granted a right to his work. Whoever commits an infringement would be considered liable under the national law where the breach occurred.<sup>213</sup> Moreover, the *DSM Directive*<sup>214</sup> is highly relevant for copyright law and NFTs as it considers the technological development our society is undergoing every day and the vast impact they have on copyright. Indeed, in Recital 8, the Directive highlights the problem of copyfraud, a widespread phenomenon in the use of NFTs, by stating that «in certain instances, text and data mining can involve acts protected by copyright, by the sui generis database right or by both, in particular, the reproduction of works or other subject matter, the extraction of contents from a database or both which occur for example when the data are normalised in the process of text and data mining. Where no exception or limitation applies, an authorisation to undertake such acts is required from rightholders».<sup>215</sup>

Moreover, Recital 53 deals with the significance of a public domain work' and the copyright implication that such a connotation entails. Indeed, «the expiry of the term of protection of a work entails the entry of that work into the public domain and the expiry of the rights that Union copyright law provides in relation to that work.»<sup>216</sup> In the case of GAM and Rijksmuseum, the work of Rembrandt falls within such definition as the copyright on the painting is expired. Moreover, in Recital 53, the Directive admits that «in the digital environment, the protection of such reproductions through copyright or related rights is inconsistent with the expiry of the copyright protection of works. In addition, differences between the national copyright laws governing the protection of such reproductions give rise to legal uncertainty and affect the cross-border dissemination of works of visual arts in the public domain. Certain reproductions of works of visual arts in the public domain

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<sup>211</sup> Ibid 1, 299

<sup>212</sup> «Summary of the Berne Convention for the Protection of Literary and Artistic Works (1886)», WIPO, <[https://www.wipo.int/treaties/en/ip/berne/summary\\_berne.html#\\_ftn2](https://www.wipo.int/treaties/en/ip/berne/summary_berne.html#_ftn2)>, accessed 25 May 202

<sup>213</sup> Ifeanyi E. Okonkwo, «NFT, copyright and intellectual property commercialization», *International Journal of Law and Information Technology*, (22 November 2021), 298

<sup>214</sup> Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC

<sup>215</sup> Recital 8 of the DSM Directive

<sup>216</sup> Recital 53 of the DSM Directive

should, therefore, not be protected by copyright or related rights.»<sup>217</sup> Therefore, by acknowledging the legal uncertainty that characterizes the digital representation of works in the public domain and the inconsistency of copyright protection for the digital reproduction of such works, the Directive seems to take the direction that would not condemn the GAM's tokenization of "Night Watch."

The structure of NFT is highly innovative and does not easily match today's conceptions of ownership. The first main issue with NFT related to crypto art is linked to the content that non-fungible tokens represent. Indeed, they can either be «metadata file containing information encoded with a digital version of the work that is being tokenized»<sup>218</sup> or registered in the blockchain -but such type is less common as it is costly to record information on the blockchain. Copyright issues start first in the minting process. Indeed, as anything can potentially be tokenized, it is also possible to turn into an NFT a work of art subjected to copyright protection <sup>219</sup> and the product of another artist's work. There are multiple instances of alleged copyright infringements -from Terrence Hill minting Mona Lisa as his original work of art<sup>220</sup> to the selling of a fake Banksy NFT<sup>221</sup>. In these cases, where NFTs are minted without the artist's permission, the infringements usually are solved outside of courts, with the direct intervention of platforms that remove the illegal content.

The widespread confusion regarding NFTs is also linked to what buyers think they acquire when purchasing an NFT. Indeed, some buyers believe they will own the NFT and the copyright related to such work. However, they only buy the "metadata associated with the work; not the work itself."<sup>222</sup> The most common situation is that buyers only purchase a unique receipt recorded in the blockchain and refers to a specific NFT<sup>223</sup> - making such token unique.

To understand if the minting of an NFT without owning the copyright that entitles to proceed with such action can be condemned as a copyright infringement, we should focus on what buyers own when they purchase an NFT. The NFT is a series of numbers recorded in the blockchain that identifies a specific work. Such a series of numbers is unique and generate a file associated with the NFT. It

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<sup>217</sup> Recital 53 of the DSM Directive

<sup>218</sup> Andres Guadamuz, "Non-fungible tokens (NFTs) and copyright", WIPO Magazine, (December 2021), 2

<sup>219</sup> Ibid 1, 3

<sup>220</sup> "The man who used the blockchain to steal the Mona Lisa", IcoExaminer, (15th June 2018),

<<https://icoexaminer.com/ico-news/the-man-who-used-the-blockchain-to-lay-claim-to-the-mona-lisa/>>, (accessed 28 May 2022)

<sup>221</sup> Joe Tidy, "Fake Banksy NFT sold through artist's website for £244k", BBC News, (31 August 2021), <<https://www.bbc.com/news/technology-58399338>>, accessed 28 May 2022

<sup>222</sup> Andres Guadamuz, "Non-fungible tokens (NFTs) and copyright", WIPO Magazine, (December 2021), 4

<sup>223</sup> Andres Guadamuz, "Copyfraud and copyright infringement in NFTs", TechnoLlama, (14 March 2021) <<https://www.technollama.co.uk/copyfraud-and-copyright-infringement-in-nfts>>, accessed 25 May 2022

should be clear that “the NFT file on the blockchain does not contain the actual digital piece of art”<sup>224</sup>. However, the content associated with the NFT is still linked to an author's work of art, and this content is relevant to copyright law.<sup>225</sup>

We could then argue that as such numbers only represent the NFT, it could be challenging to see how such a file could be considered a reproduction or an adaptation of the work the NFT is inspired of.<sup>226</sup> Nonetheless, Guadamuz affirms that either if it is difficult to associate a minting of an NFT with a copyright infringement, such potential infringement should meet three requirements.<sup>227</sup> Firstly, the infringer must have taken advantage of one of the exclusive rights expressly granted to the author without his authorization. Secondly, there should be a connection between the NFT and the author's unique work of art, meaning that the NFT has to be created “directly from the original”<sup>228</sup> work. Lastly, the work represented by the NFT or a part of such work should be copied from the original artist's work. According to Guadamuz, it is challenging for an NFT to meet these requirements, but such criteria should be considered for the future development of such technology. Indeed, it is the nature itself of the NFT -a code- that prevents copyright infringement from occurring as it could not be seen as a reproduction of the original work of art.

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<sup>224</sup> Ifeanyi E. Okonkwo, “NFT, copyright and intellectual property commercialization”, *International Journal of Law and Information Technology*, (22 November 2021), 297

<sup>225</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren't the droids your're looking for”, *European Intellectual Property Law Review*, (January 2022), 18

<sup>226</sup> Andres Guadamuz, “Non-fungible tokens (NFTs) and copyright”, *WIPO Magazine*, (December 2021), 5

<sup>227</sup> *Ibid* 1, 6

<sup>228</sup> *Ibid* 2, 6

## Section 4: NFTs related to the music world

- 4.1 The use of NFTs in the music industry
- 4.2 The case of Kings of Leon: the first band to release an album as an NFT
- 4.3 The case of Reasonable Doubt: the first legal action involving copyright infringement in the music industry
- 4.4 Copyright law applied to NFTs in the music world

In the third section, we focused on the role visual artists have when dealing with NFTs and blockchain and what are the copyright impacts they face when selling their art. In the fourth section, we will focus on the role of music artists when dealing with NFTs. Both categories relate to artists, but the product of their art differs, and thus this difference reflects also on copyright issues. Although NFTs linked to music are not common as the ones related to artwork, they are rapidly growing in importance in the asset world.

### 4.1 The use of NFTs in the music industry

According to Lube et al., «blockchain could save the music industry billions».<sup>229</sup> The use of blockchain technology, smart contracts, and non-fungible tokens could be one of the most significant opportunities for the music industry to redefine itself. Indeed, blockchain technology could be seen as a chance to reshape and decentralize the music industry to finally meet the interests of music artists. This is because such an industry uses a way of functioning that could be defined as outmoded.<sup>230</sup> Two actors play a fundamental role in the music industry: musicians and music intermediaries (labels, streaming services, and publishers). However, music intermediaries' role generally involves

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<sup>229</sup> "Blockchain: Recording the Music Industry", (2018), PwC, <<https://www.pwc.co.uk/industries/technology-media-and-telecommunications/insights/blockchain-recording-music-industry.html>> , accessed on 22 May 2022

<sup>230</sup> Rauman, Bradley, "The Budding Disruption of Blockchain Technology Upon the Current Structure of the Music Industry" (2021). Senior Theses, 4



disparities that allow them to own often massive fees that do not benefit artists.<sup>231</sup> The disparities come from the fact that intermediaries' percentage in revenue is too high in comparison to artists' earnings. According to Taghdiri, implementing blockchain technology in the music industry will bring several benefits, such as an increase in "royal payouts for content creators"<sup>232</sup>; an increase in the industry's transparency; the automation of payments, and the removal of unwanted intermediaries.

Indeed, the blockchain seems particularly attractive to the music industry for several aspects highlighted by Kapsoulis et al.:

- «Transparency: any interested party can be part of the system and check on the status of their assets.
- Trust: nobody can tamper with the records. Traceability: the ability to check the claims that an asset has received over time.
- Decentralization: no single entity owns the database (the database operates on crowd-sourced contribution).
- Conflict resolution: confluence in a single view of aggregated assets that allows conflict detection at early stages.
- Efficiency: disintermediation in an interoperable solution that shares the information instantaneously across all stakeholders and integrates with their back offices. »<sup>233</sup>

Such benefits are strictly linked to the way blockchain operates. Indeed, in the blockchain, all actions are fully transparent and allow every user to track the actors operating in the blockchain. This transparency could benefit artists, especially as they are often left in the dark about the data related to their music sales. Indeed, such data are received by record labels and distributors, and generally, artists do not know what feedback is coming from their work.<sup>234</sup> In this context, the use of blockchain could solve the problem of artists' access to data by allowing them to track the evolution linked to their music step by step. Indeed, such information benefits artists as they can control where their songs are played, how many times they are played, and who plays their music.<sup>235</sup> Moreover, these data are of capital importance as they can influence artists' business decisions and marketing. Indeed, if an artist knows that his music is very famous in Europe, he could decide to add more events in such

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<sup>231</sup> Arya Taghdiri, "How Blockchain Technology Can Revolutionize the Music Industry", *Journal of Sports & Entertainment Law*, Harvard Law School, (2019), 174

<sup>232</sup> *Ibid* 1, 174

<sup>233</sup> *Ibid* 1, 2

<sup>234</sup> Arya Taghdiri, "How Blockchain Technology Can Revolutionize the Music Industry", *Journal of Sports & Entertainment Law*, Harvard Law School, (2019), 182

<sup>235</sup> *Ibid* 1, 183

areas for his tour. Furthermore, if he knows that his work isn't viral in the USA, he could plan to reinforce the marketing campaign in this country.

The emergence of music NFTs underwent a drastic development in February 2021, with the selling of the first music album as an NFT by 3LAU, which sold for over 11 million dollars.<sup>236</sup> The album "Ultraviolet", sold as an NFT, was composed of 33 digital assets that could be redeemed with either a special vinyl edition of 3LAU albums, some unrealized music, or experience with the artist.<sup>237</sup> 3LAU decided to sell 33 NFTs to celebrate the third anniversary of his album, and such selling allowed him to compensate for the economic losses he suffered during the pandemic. Moreover, the release was made possible with a collaboration between the artist and a crypto-trading company called Origin Protocol which operates throughout the Ethereum blockchain.<sup>238</sup>

In a recent paper, Fernandes et al.<sup>239</sup>, have highlighted the importance that NFTs have recently gained within the music industry. In such a paper, the authors have analyzed 34 NFTs platforms that offer audio content, including specific platforms marketplaces for NFT audio distribution. Their analysis was conducted between December 2021 and March 2022 and was able to summarize into several tables what is the current market offer for audio and music NFTs, with an indication of the type of offer and a distribution specification.

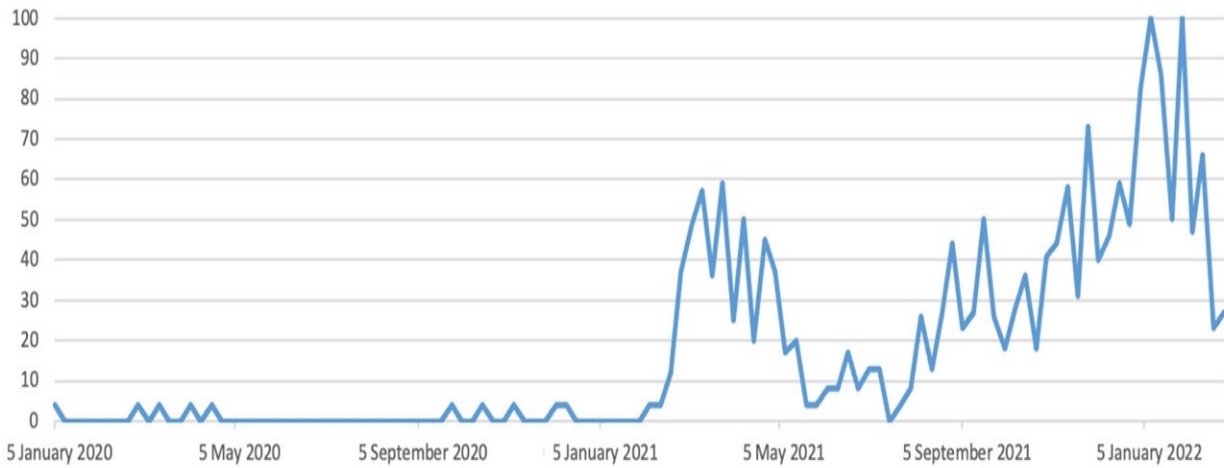
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<sup>236</sup> Jabotinsky, Lavi, "NFT for Eternity", University of Michigan Journal of Law Reform, No, 56, Forthcoming, (17 April 2022), 20

<sup>237</sup> Kay, Grace, "Musician 3LAU Sells the World's First-Ever Crypto-Alboms, Making \$11.6 Million in Under 24 Hours", Business Insider,( March 2, 2021), < <https://www.businessinsider.com/nft-ultraviolet-3lau-first-ever-crypto-alboms-sales-11-million-2021-3>>, accessed 25 May 2022

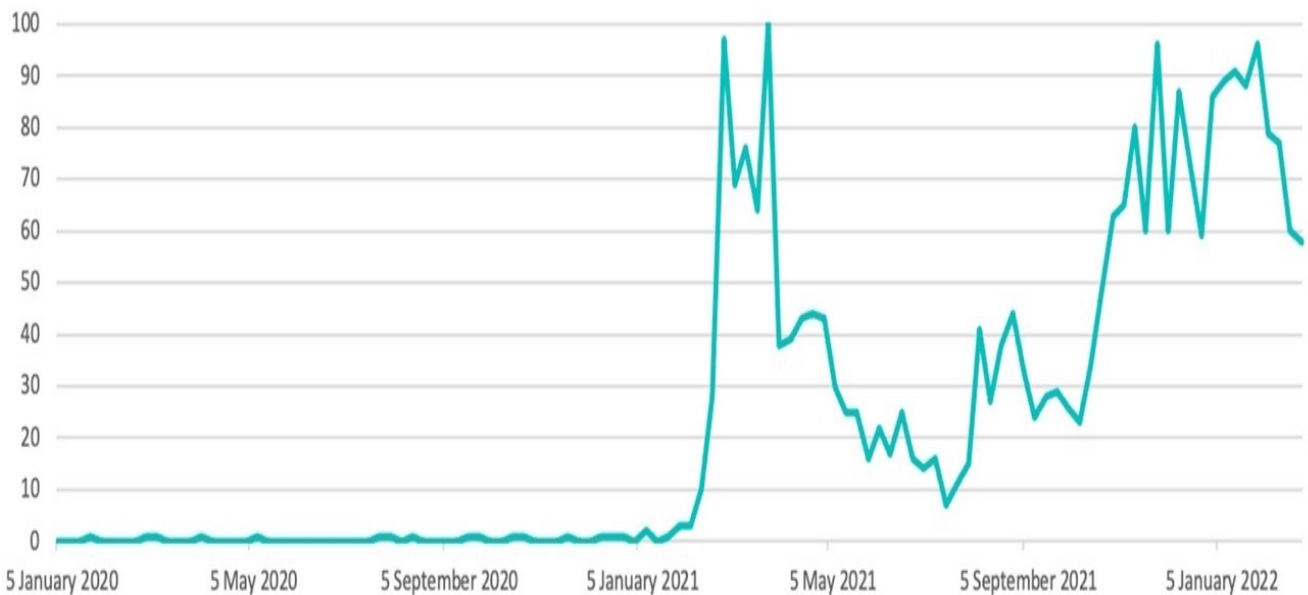
<sup>238</sup> Ibid 1

<sup>239</sup> Clara E. Fernandes, Ricardo Morais, "Do NFTs Sound Good? An Exploratory Study on Audio NFTs and Possible Avenues", Informatics, (November 2022), <[https://www.researchgate.net/publication/365618866\\_Do\\_NFTs\\_Sound\\_Good\\_An\\_Exploratory\\_Study\\_on\\_Audio\\_NFTs\\_and\\_Possible\\_Avenues](https://www.researchgate.net/publication/365618866_Do_NFTs_Sound_Good_An_Exploratory_Study_on_Audio_NFTs_and_Possible_Avenues)>



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The first graphic highlights the «Worldwide searched term on Google for “NFT Audio” ». As we can notice on the graphic, audio NFT became more popular at the end of January and the start of May 2021, with a notable pick of interest on the searches in April 2021. Therefore, such a graphic can allow us to conclude that audio NFTs have gained public attention in the last two years. Authors justify such a peak in search by a possible increase of music artist interest in NFTs, mainly due to the selling of Grimes’ collection in February 2021.<sup>241</sup>



<sup>240</sup> Ibid 1, 13

<sup>241</sup> In February 2021, the music artist Grims sold on the platform Nifty Gateway a series of 10 music NFTs, earning around 6\$ million for such selling.

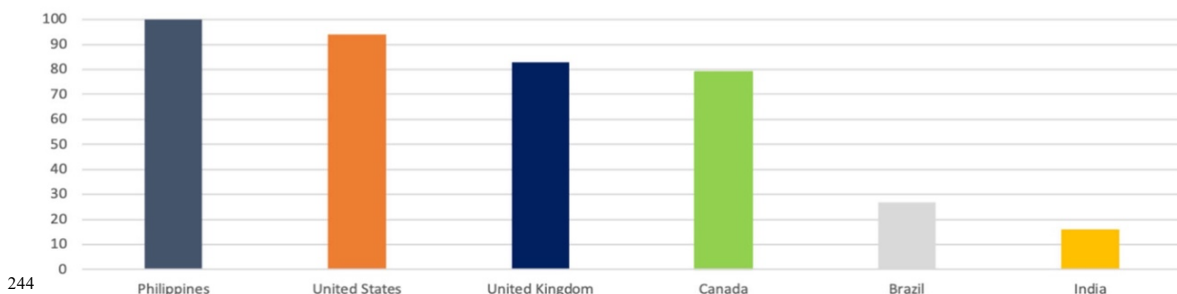
The second graphic represents the «Worldwide searched term on Google for “NFT Music”». <sup>243</sup> Such a graphic highlights the same result as the first one, accordingly two relevant peaks in early 2021 and a subsequent increase in September 2021.

The graphics are very interesting for the purpose of this thesis as they can allow us to conclude that the public’s interest in audio and music NFTs have exploded recently, more precisely in April 2021.

The third graphic <sup>244</sup> -taken from Fernandes et al. analysis- represents the «Google search for NFT Audio by country» between January 2020 and January 2022. According to such a graphic, the country that has the highest score for Google search is the Philippines, followed closely by the United States, the United Kingdom and Canada. However, Fernandes et al. specify that the data used to conduct the analysis are not displayed in a way that allows providing absolute percentages. Indeed, «therefore, the higher score presented here by the Philippines does not necessarily show a higher interest in these terms when compared to more populated countries». <sup>245</sup> According to the Google trends website, « a higher value means a higher proportion of all queries, not a higher absolute query count. So a tiny country where 80% of the queries are for ‘bananas’ will get twice the score of a giant country where only 40% of the queries are for ‘bananas ». <sup>246</sup>

<sup>242</sup> Clara E. Fernandes, Ricardo Morais, “Do NFTs Sound Good? An Exploratory Study on Audio NFTs and Possible Avenues”, (November 2022), <[https://www.researchgate.net/publication/365618866\\_Do\\_NFTs\\_Sound\\_Good\\_An\\_Exploratory\\_Study\\_on\\_Audio\\_NFTs\\_and\\_Possible\\_Avenues](https://www.researchgate.net/publication/365618866_Do_NFTs_Sound_Good_An_Exploratory_Study_on_Audio_NFTs_and_Possible_Avenues)>

<sup>243</sup> Ibid 1



<sup>245</sup> Clara E. Fernandes, Ricardo Morais, “Do NFTs Sound Good? An Exploratory Study on Audio NFTs and Possible Avenues”, (November 2022), <[https://www.researchgate.net/publication/365618866\\_Do\\_NFTs\\_Sound\\_Good\\_An\\_Exploratory\\_Study\\_on\\_Audio\\_NFTs\\_and\\_Possible\\_Avenues](https://www.researchgate.net/publication/365618866_Do_NFTs_Sound_Good_An_Exploratory_Study_on_Audio_NFTs_and_Possible_Avenues)>

<sup>246</sup> Google Trends, “Interest by sub-region”, <<https://support.google.com/trends/answer/4355212>>

The analysis conducted by Fernandes et al. can therefore allow us to conclude that audio and music NFTs have become popular recently. Indeed, the emergence of this type of NFT seems to happen between January 2020 and the beginning of 2022.

#### 4.2 The case of Kings of Leon: the first band to release an album as an NFT

The first band to release their album as a non-fungible token was King of Leon.<sup>247</sup> On March 5<sup>th</sup> 2021, the band offered their album on the platform YellowHeart (which specializes in selling NFTs related to music), providing three different types of NFTs that form part of a series called “NFT Yourself”. Such different types of NFTs allow fans to choose what they want to buy and what kind of support they want to give to the band. Indeed, the band released three types of NFTs that offer fans and potential buyers different rewards: a special album package, front-row seats for life for Kings of Lion concerts, and some limited audiovisual art.<sup>248</sup>

The selling of limited edition of NFTs was available on the platform from March 5<sup>th</sup> 2021, until March 19 2021, and the operation went sold out. The band claimed that if some collectibles would not have been sold, they would have been «burned -deleted forever- and no more will be made available».<sup>249</sup> After the first sale, the NFTs became trading collectibles, meaning that they were resold on the main platforms -such as OpenSea. The band earned over 2 million dollars from the sale of the NFTs<sup>250</sup>, and such an amazing result is mainly due to the selling of a specific type of NFT, the six “golden tickets” that grants buyers the right to have for life front-row seats for every headline tour concert of the Kings of Lion.<sup>251</sup>

The decision of the band to sell their album as an NFT does not mean that the music is available only for the buyers of such tokens. Indeed, after the NFTs sale, the album was also released on the main streaming platforms – such as Spotify, iTunes, Apple Music and Amazon. Therefore, we could

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<sup>247</sup> Samantha Hissong, “Kings of Leon Will Be the First Band to Release an Album as an NFT”, Rolling Stone, (3 March 2021), < <https://www.rollingstone.com/pro/news/kings-of-leon-when-you-see-yourself-album-nft-crypto-1135192/> > accessed 27 April 2022

<sup>248</sup> Ibid 1

<sup>249</sup> Sam Moore “Kings Of Leon have generated \$2million from NFT sales of their new album”, NME, (12th March 2021), < <https://www.nme.com/news/music/kings-of-leon-have-generated-2million-from-nft-sales-of-their-new-album-2899349> >, accessed 27 February 2023

<sup>250</sup> Ibid 1

<sup>251</sup> Ibid 2

wonder what is the purpose of buying an NFT if such music is also available on the main streaming platforms. It is the uniqueness of the NFT and the special perks it offers that motivate fans to purchase them. Indeed, the price of the token is relatively affordable -it was fixed at 50\$ for the first sale- and grants fans the right to access some exclusive content such as a moving album cover, a limited-edition vinyl and, in addition, to download the music digitally.<sup>252</sup>

Moreover, the selling of NFTs by the band is particularly original as it shows how music artists can sell -besides their music- also visual art. Indeed, musical artists can sell both their music and the cover of their album as an NFT.<sup>253</sup> In the case of Kings of Leon, it is important to specify that the three different types of NFTs offered were designed by Night After Night, the band's creative partner, which provided with every NFT some exclusive art.<sup>254</sup>

In addition, what is particularly innovative with the selling of the band is that the objects of the transactions are music utility NFTs.<sup>255</sup> A utility NFT is a token which grants its owner additional privileges than the simple fact of owning an NFT. Such rewards are linked with the ownership of an NFT, and they are unique as they are generally not accessible in other ways than owning the NFT.<sup>256</sup> The easiest way to understand what utility tokens are is to give an example. Let's consider that 100 tickets for a concert are released in the form of NFTs. Each NFT is, therefore, unique and non-fungible as it has its own ticket number. However, each token would confer to their owner a utility -that, in this case, would be the same- the entrance to the concert.

Utility NFTs work the same way as "regular" NFTs. They are minted and registered in the blockchain; therefore, every NFT is unique. Moreover, the transparency and the immutability of the blockchain<sup>257</sup> make it easier for every owner to prove their ownership, as such assets are part of their wallet, and such proof can be generally accessed by every user.

In the music industry, utility music non-fungible tokens can revolutionize the market completely. Indeed, as shown by the Kings of Leon example, NFTs are a tool that can allow musicians to release

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<sup>252</sup> Ibid 3

<sup>253</sup> Rauman, Bradley, "The Budding Disruption of Blockchain Technology Upon the Current Structure of the Music Industry" (2021). Senior Theses, 24

<sup>254</sup> Samantha Hissong, "Kings of Leon Will Be the First Band to Release an Album as an NFT", Rolling Stone, 3 March 2021 < <https://www.rollingstone.com/pro/news/kings-of-leon-when-you-see-yourself-album-nft-crypto-1135192/> > accessed 27 April 2022

<sup>255</sup> Lydia Mendola, "The Potential of NFTs for the Music Industry", Lexology, (October 17 2022), <<https://www.lexology.com/library/detail.aspx?g=d38c550a-c392-4797-b0c0-da7028e696a9>>, accessed 27 February 2023

<sup>256</sup> Joseph O'Neill, "What are utility NFTs? Unique tokens offering real-world benefits", Decrypt, (8<sup>th</sup> June 2022), < <https://decrypt.co/resources/what-are-utility-nfts-unique-tokens-offering-real-world-benefits>>, accessed 27 February 2023

<sup>257</sup> Ibid 1

their music through a new way of communication. Furthermore, utility NFTs add some unique features to such NFTs, which could, even more, attract buyers and fans to adopt such an innovative way to purchase music. NFTs benefits musicians as they would not have to wait to receive royalties from the main digital streaming platforms, but they could directly receive money from selling their NFTs. Indeed, « in a huge labyrinthine ecosystem of labels, publishers, distributors, and royalty collectors, the idea of artists getting paid quickly may sound like a revolutionary concept. What if it wasn't? »<sup>258</sup> What if NFTs could solve the issues musicians face nowadays, allowing them to be paid fairly and, even more, solve the issues the secondary ticketing market is currently facing? Indeed, another benefit of music NFTs is the fact that they are an effective tool for fighting ticketing fraud. We should consider that online event ticketing is predicted to reach a worth of 68\$ billion by the end of 2025<sup>259</sup>, and such a market is crucial to the music industry as its one of the main sources of revenue for artists and music intermediaries. However, online event ticketing is often exposed to fraud that seriously damages music fans. In February 2021, the UK's Action Fraud – the national fraud service- reported a «62% increase from the previous month in complaints of ticketing fraud, with victims losing a combined total of nearly £300,000».<sup>260</sup> Therefore, online ticketing fraud directly affects artists and venues as the profits from the tickets are pocketed by scalpers. A possible way to solve these issues is to use NFTs. Indeed, NFTs are stored in the blockchain, which is characterized by the fact that the minted and stored data can't be falsified, changed or manipulated.<sup>261</sup> Therefore, blockchain technology creates a transparent and tamper-proof environment, eliminating the possibility of selling fake tickets to customers.<sup>262</sup> The use of NFTs tickets will consequently bring several benefits to the music industry as users could buy tickets without the fear of being scammed, thanks to the transparent structure of such tokens. In addition, as NFTs tickets are unique and easily verifiable, such a way of selling tickets would allow venues to easily determine who is the original IP owner of a ticket and thus determine if it is authentic. Cryptographic proofs are a tool that could enhance vendors and fans' capacity to assess the authenticity of a ticket and so eliminate counterfeits. Therefore, NFTs are the perfect tool to solve such major issues the music industry is facing.

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<sup>258</sup> Samantha Hisson, “A Field Guide to Music’s Potential Crypto Boom”, RollingStone, (4 February 2021) <<https://www.rollingstone.com/pro/features/music-crypto-blockchain-nfts-guide-1116327/>>, accessed 1 March 2023

<sup>259</sup> Josh Katz, “Ticketing: How Web3 Can Evolve The Industry And Unlock Doors”, (30 June 2022), <<https://beincrypto.com/ticketing-how-web3-can-evolve-the-industry-and-unlock-doors/>>, accessed 26 February 2023

<sup>260</sup> Ibid 1

<sup>261</sup> Ibid 2

<sup>262</sup> Ibid 3

### 4.3 The case of Reasonable Doubt

The first legal action involving copyright infringement is underway in the United States, and it consists of an NFT linked to music. The case refers to the release of the album *Reasonable Doubt* by the artist Jay-Z and the music label RAF, Inc co-founded by Damon Dash<sup>263</sup>. Such an album was initially released in 1996 and marked a turning point in the artist's career, allowing him to become one of the leading rapper artists. Indeed, Jay-Z has sold over 50 million albums, won 23 Grammy Awards, and has been ranked as one of the 100 Greatest Artists of All Time.<sup>264</sup> Jay-Z released *Reasonable Doubt* in collaboration with RAF, Inc. The artist, Dash, and Burke own the company, having one-third of the shares. The copyright of *Reasonable Doubt* is owned by RAF, Inc, as well as «all rights, title, and interests to and in *Reasonable Doubt*, including, without limitation, right to sell, record, reproduce, broadcast, transmit, exhibit, distribute, advertise, and exploit the album.»<sup>265</sup> Bearing this in mind, Dash announced in June 2021 the listing of an NFT based on the album. He partnered with SuperFarm, a platform that allows the creation, auction, and selling of NFTs. According to the announcement on the platform website, purchasing the NFT would enable the buyer to own the copyright on the album and earn every future revenue generated by such an album.<sup>266</sup> However, the copyright holder of *Reasonable Doubt* was still the music label RAF, Inc; therefore, they sued the producer. The sale of the NFT linked to such an album was immediately stopped by a judge, and the case is ongoing in the United States.

Such a case raises several concerns regarding copyright law. To establish if a copyright infringement exists, we need to refer such possible infringement to the minting of the work. Clearly, in the process of the minting of the copyright, Dash is not the owner of the album and does not have exclusive copyrights on such work. Indeed, he only owns 1/3 of RAF, Inc, and there is no doubt that he «has no right to sell the copyright or any individual ownership interests in *Reasonable Doubt*.»<sup>267</sup> Moreover, the two other company owners never allowed the selling of such NFT. So, Dash's selling

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<sup>263</sup> Andres Guadamuz “The treachery of images: non-fungible tokens and copyright”, *Journal of Intellectual Property Law & Practice*, 2021, 1378

<sup>264</sup> *Roc-A-Fella Records, Inc v Dash* [2021] New York Southern District Court (New York Southern District Court), < <https://bit.ly/2URaZSE> >, accessed 1 June 2022, 5

<sup>265</sup> *Ibid* 1, 6

<sup>266</sup> Nick Reilly, “Judge blocks Damon Dash’s attempted sale of Jay-Z’s ‘Reasonable Doubt’ as an NFT”, *NME*, (23 June 2021), < <https://www.nme.com/news/music/judge-blocks-damon-dashes-attempted-sale-of-jay-zs-reasonable-doubt-as-an-nft-2976000> >, accessed 22 May 2022

<sup>267</sup> *Roc-A-Fella Records, Inc v Dash* [2021] New York Southern District Court (New York Southern District Court), < <https://bit.ly/2URaZSE> >, accessed 1 June 2022, 7



of the NFT could be seen as an infringement of copyright law. As we analyzed in section 1, legal experts haven't already reached a clear conclusion about the cases where a minting of another's subject work can or cannot be seen as copyfraud. However, such a case differs from the one we analyzed in the third section – the case of GAM and Rijksmuseum- as here Dash has not only minted an NFT based on another artist's work but is also offering to transfer his copyright on the album as well as every future revenue generated by *Reasonable Doubt*. Moreover, unlike Rembrandt's painting, *Reasonable Doubt* is not a work of the public domain that was made available online to benefit every interested user. Jay-Z's album has a copyright that is not expired yet and contains music tracks that still generate income for RAF, Inc. In addition, the selling of Dash rights on such an album is not authorized by the two other owners of the company. Therefore, Dash's behavior could be recognized as « a breach of his duty of loyalty by leveraging his position as a shareholder to attempt to steal and sell an asset of RAF, Inc. for his own personal. »<sup>268</sup>

As we saw in Section 3, once a work of art is protected under copyright law, the author is granted a right to his work. Therefore, whoever commits an infringement would be considered liable under the national law where the breach occurred.<sup>269</sup> In this case, to determine if the selling of the NFT would represent a copyright infringement, we should follow Guadamuz's requirements<sup>270</sup> mentioned in the third section, accordingly :

- A) the infringer must have taken advantage of one of the exclusive rights expressly granted to the author without his authorization
- B) there should be a connection between the NFT and the author's unique work of art, meaning that the NFT has to be created "directly from the original"<sup>271</sup> work.
- C) the work represented by the NFT or a part of such work should be copied from the original artist's work.

In this case, it can be affirmed that trying to sell the NFT would strengthen Dash's possibilities to take advantage of the exclusive rights granted to RAF, Inc, known as the copyrights of the album. Moreover, here the NFT is entirely based on Jay-Z's original work as it indeed represents his first album. Finally, the last requirement is met as the NFT is wholly based on the original artist's work.

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<sup>268</sup> Ibid 1, 9

<sup>269</sup> Ifeanyi E. Okonkwo, "NFT, copyright and intellectual property commercialization", *International Journal of Law and Information Technology*, (22 November 2021), 298

<sup>270</sup> Andres Guadamuz, "Non-fungible tokens (NFTs) and copyright", *WIPO Magazine*, (December 2021), 6

<sup>271</sup> Ibid 2, 6

Therefore, once stated that all of Guadamuz's requirements are fulfilled, to establish if Dash's behavior could be recognized as a copyright infringement, we should link it again to the minting of the NFT. The whole question rotates around whether the content of the NFT is recognized as unique work or only a code that represents metadata. However, in this case, the link between the NFT and the original work protected under copyright law is so relevant that also, if the NFT represents only metadata, it is unlikely that his selling would not be seen as a copyright infringement. Although the case analysed highlights a potential copyright infringement, NFTs can also be seen as «an opportunity (for fans) to not just own a personal copy of a recording or even a digitally unique version, but to share in the ownership of the actual property rights, a role previously reserved for record labels and music publishers». Indeed, if the selling of an NFT respects copyrights, it could also include granting the buyer a part of the ownership of a song.<sup>272</sup>

#### 4.4 Copyright law applied to NFTs in the music world

As analyzed previously, the benefits that blockchain technology could bring to the music industry are relevant. The way of functioning of such technology, its transparency, efficiency, and trust make it a valuable solution to solve the issues the industry has faced for years. Indeed, the transparency of blockchain technology would allow artists to access the data linked to their work -feedback, buyers, the identity of fans...- and enable them to have a unique opportunity to decide on their own financial and artistic future.<sup>273</sup>

The combination of blockchain transparency -an inherent characteristic of the blockchain ledger- with the functioning of the smart contract is responsible for resurrecting the interest in peer-to-peer sharing platforms. Moreover, as in blockchain technology, every data is recorded -in the processing of the minting of an NFT- and cannot be changed; it would be possible to create a new music ecosystem with a general copyright database. Indeed, such technology stores data in a way that makes it «impossible to add, remove, or change data without detection from other users.»<sup>274</sup> Creating a decentralized and transparent database to store the copyright linked to artistic work would revolutionize the music industry.

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<sup>272</sup> Rogers, Carter, Morgan, Edgington, “Diminishing Dreams: The Scoping Down of the Music NFT”, *M/C Journal*, (2022) , < <https://doi.org/10.5204/mcj.2884>>

<sup>273</sup> Arya Taghdiri, “How Blockchain Technology Can Revolutionize the Music Industry”, *Journal of Sports & Entertainment Law*, Harvard Law School, (2019), 174

<sup>274</sup> *Ibid* 1, 175

The attempt to build a general copyright database has already been made with the Global Repertoire Database (GRD). The intent was the creation of a general database to create a copyright administration within the EU. The project started in September 2008 with the EU Commissioner Neelie Kroes, launching the Global Repertoire Database Working Group (GRD WG).<sup>275</sup> The group's goal was to support the creation of an authoritative, inclusive and unique ledger to control the copyright and authorship of worldwide music works. Moreover, such a group established that access to the general database would have been granted to publishers, songwriters, Collective Rights Management (CRM) organizations, and every potential user.<sup>276</sup> The creation of the Global Repertoire Database (GRD) aimed to bring some notable benefits to the music industry. Indeed, such a database would have been particularly relevant, especially for the transparency it could bring into the music industry -this for the song's distribution and royalty collection. Indeed, the database openness would have facilitated the tracking and payment to correct royalties to artists -and, therefore, the need for intermediaries to fulfill such actions. Moreover, another potential benefit the GRD could have brought is the administrative cost reduction for such a business as artists would have to register their work only once -instead of in every country- and administrators would refer only to such a database for the tracking of royalties, the collection and payment of royalties and the identification of licensors and licensees.<sup>277</sup> It appears evident that a database that would host every type of relevant data linked to every artist's work would bring practical benefits to the music industry. However, such a project was abandoned in July 2014, leaving a debt of 13 million\$. The failure is linked to the loss of financial and data support by collection societies<sup>278</sup>, as they disagreed on sharing data with GRD. Such behavior is related to the fact that they feared that creating the Global Repertoire Database would have significantly diminished their revenue from operational costs. Moreover, there was also a fear of who would have been entitled to manage the database and, therefore, have access to and administrate sensible data. The failure also relates to the fact that data would have come from different sources, and their management would have been excessively tricky.<sup>279</sup> Lastly, another reason for such

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<sup>275</sup> Klementina Milosic "GRD's Failure", Music Business Journal, (2 August 2015), < <http://www.thembj.org/2015/08/grds-failure/> >, accessed 2 June 2022

<sup>276</sup> Ibid 1

<sup>277</sup> Ibid 2

<sup>278</sup> Ibid 3

<sup>279</sup> Kapsoulis, Nikolaos, Psychas, Alexandros, Palaiokrassas, Georgios, Marinakis, Achilleas, Litke, Antonios, Varvarigou, Theodora, Bouchlis, Charalampos, Raouzaïou, Amaryllis, Calvo, Goncal, and Jordi Escudero Subirana, "Consortium Blockchain Smart Contracts for Musical Rights Governance in a Collective Management Organizations (CMOs) Use Case", Future Internet 12, no. 8 (11 August 2020), 12

failure is that collection societies worried that artists could directly license their songs without the help of intermediaries, thus making their role useless.<sup>280</sup>

However, the failure of the GRD should not discourage finding an alternative solution to the problems that characterize the music industry. Indeed, three main problems should be solved:

- a) «The lack of unique and complete (national or international) databases
- b) fragmented record music market in favor of a few who retain most of the commercial power and economic profit against many artists that have difficulties in managing their works and obtaining financial comeback for their work
- c) absolute lack or non-existent data on the exploitation of the Work of music, by whom, for how long, and for which uses.»<sup>281</sup>

A valid alternative to solve these issues after the failure of the GRD would be the use of blockchain technology. Such a database would provide a single secure network to store and access information and allow easy access to every authorized participant.<sup>282</sup> Moreover, the functioning of smart contracts could offer artists secure and transparent transactions and immediate payment when purchasing their work. Smart contracts could also provide transparency and data traceability for every transaction linked to artists, allowing them to receive more accurate feedback on their work. The blockchain database could therefore solve copyright issues that often occur between creators and intermediaries and solve the troubling asymmetry of access that often happens due to the lack of a proper general database.

According to Baym et al., «the blockchain hammer offers a unified solution to long-standing problems in music production, distribution, publishing, licensing, sales, streaming, and listening.»<sup>283</sup> Indeed, in recent years, scholars have highlighted the possibility and the benefits that the use of blockchain technology would bring to the music industry. First of all, in 2014, D.A Wallach -an investor, musician and artist in residence at Spotify- published an article on Wired called “Bitcoin for

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<sup>280</sup> Klementina Milosic, “GRD’s Failure”, Music Business Journal, (2 August 2015), < <http://www.thembj.org/2015/08/grds-failure/> >, accessed 2 June 2022

<sup>281</sup> Imogen Heap, “Blockchain Could Help Musicians Make Money Again”, Harvard Business Review, 5 June 2017, < <https://hbr.org/2017/06/blockchain-could-help-musicians-make-money-again> >, accessed 2 June 2022

<sup>282</sup> Kapsoulis, Nikolaos, Psychas, Alexandros, Palaiokrassas, Georgios, Marinakis, Achilleas, Litke, Antonios, Varvarigou, Theodora, Bouchlis, Charalampos, Raouzaïou, Amaryllis, Calvo, Goncal, and Jordi Escudero Subirana, “Consortium Blockchain Smart Contracts for Musical Rights Governance in a Collective Management Organizations (CMOs) Use Case”, Future Internet 12, no. 8 (11 August 2020), 12

<sup>283</sup> Baym, Swartz, Alarcon, “ Convening Technologies: Blockchain and the Music Industry”, International Journal of Communication, (2019), 402

Rock Stars”. Although he did not explicitly mention blockchain technology in his article, Wallach argues that «by applying the technical breakthroughs of these networks, we can sensibly organize data about music for the first time in human history and, more importantly, reinvent the way artists and rights-holders get paid»<sup>284</sup>. Indeed, he believes that the main benefits that the blockchain could bring are linked to the creation of a transparent platform that would:

- «contain accurate, real-time, global data encompassing credits and rights ownership. This would make it the universal, authoritative reservoir for these types of information, and it would be open to and accessible by anyone.
- would serve as an instantaneous, frictionless payments routing infrastructure for all music usage fees and royalties. »<sup>285</sup>

Therefore, in 2014, Wallach recognized the need for the music industry to use blockchain technology. He believes that such a use would help the music industry to solve its main issues and allow artists to have access to the data regarding their work and be paid instantly for the music they sell. The idea of Wallach, back in 2014, was to create a general and authoritative global music database supported by blockchain technology. According to Robert Ashcroft -the CEO of PRS for Music- the «biggest issue facing the (music) industry in the internet era is metadata».<sup>286</sup> Indeed, nowadays, the music industry faces a major problem regarding data as, according to music experts<sup>287</sup>, it seems that

- there aren't accurate data about the music industry
- companies could fix this issue by giving the data they have, but such behaviour is against their interests
- and that the large amount of historical data that is available -which only a small part is catalogued- makes it useless to attempt to solve the problem

The principal problem is that often song files do not carry metadata about who wrote the music, who is the producer, who is the performer and who has the rights to use the music.<sup>288</sup> As such data are often unavailable, this loss raises several concerns for protecting artists' right to be recognized as the

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<sup>284</sup> D.A. Wallach, “Bitcoin for Rockstars”, *Wired*, (10 December 2014), < <https://www.wired.com/2014/12/bitcoin-for-rockstars/> >, accessed 7 March 2023

<sup>285</sup> *Ibid* 1

<sup>286</sup> George Howard, “PRS for Music CEO, Robert Ashcroft, discusses challenges and innovations in music collection”, *Forbes*, (28 January 2016), < <https://www.forbes.com/sites/georgehoward/2016/01/28/prs-for-music-ceo-robert-ashcroft-discusses-challenges-and-innovations-in-music-collection/?sh=7c24a10e1bca> >, accessed 7 March 2023

<sup>287</sup> *Ibid* 1

<sup>288</sup> Baym, Swartz, Alarcon, “ Convening Technologies: Blockchain and the Music Industry”, *International Journal of Communication*, (2019), 402

subject entitled to “moral rights” in their work. Moreover, losses also concern the economic revenues of artists as there is usually a lack of knowledge about whom to give credit for artistic work. Consequently, artists can often suffer a financial loss led by this lack of relevant data as they are not identified as the authors and, therefore, can’t be paid.

In June 2022, Pranav Behal published a very innovative paper<sup>289</sup> that explored the possibility of using Web3 to change the music industry. Behal believes that the use of blockchain technology and Web3<sup>290</sup> could allow improvement in the music industry. For instance, such a system would particularly benefit smaller artists who often need help reaching the public and earning revenues from their art. A way to help those artists could be to create an NFT -through the use of Web3 and blockchain technology- that users could receive if they listen to the music of unknown artists -with less than 10,000 followers or less than 1 000 000 streams.<sup>291</sup> This system would allow artists to have more listens, potentially more fans and receive more money for their music<sup>292</sup>. Platforms would also benefit from such a system as they would reach more users, be able to offer users a wide variety of music and therefore reach a higher number of streams. Finally, users would be encouraged to participate in this innovative system as they could earn an NFT by listening to music and be able to access a wide range of music offers. The use of blockchain technology would allow both the creation of NFTs as well as the creation of a transparent and tamper-proof system. As highlighted by O’Dair and Beaven, the «blockchain presents an opportunity to eliminate the need for trust which has hampered efforts to create a global standard database of rights ownership.»

The benefits of blockchain technology are evident. However, in order to be used, it needs to gain significant importance among the general public and generate a relevant number of transactions. Otherwise, its capabilities to solve the music industry issues would not be enough for his implementation.

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<sup>289</sup> Pranav Behal, “Listen-To-Earn: How Web3 Can Change the Music Industry”, (June 30, 2022), available at <<https://ssrn.com/abstract=4150998>> or <<http://dx.doi.org/10.2139/ssrn.4150998>>

<sup>290</sup> Defined by Ethereum as a “catch-all term for the vision of a new, better internet. At its core, Web3 uses blockchains, cryptocurrencies, and NFTs to give power back to the users in the form of ownership”. Ethereum, Introduction to Web3, available at <<https://ethereum.org/en/web3/>>, accessed 9 March 2023

<sup>291</sup> Pranav Behal, “Listen-To-Earn: How Web3 Can Change the Music Industry”, (June 30, 2022), available at <<https://ssrn.com/abstract=4150998>> or <<http://dx.doi.org/10.2139/ssrn.4150998>>

<sup>292</sup> Ibid 1

## **Section 5: NFTs related to the sports industry**

### 5.1 The future of digital trade in sports

### 5.2 The case of NBA Top Shot: a platform for the trading of NBA “unique moments”

### 5.3 Copyright law applied to NFTs in the sports industry

In the fifth section, we will focus on the final type of NFTs analyzed in this thesis: sport-related NFTs. We will discuss at first the emerging and future of digital trades in sports. Then we will examine the case of NBA Top Shot, a platform that is specified in the selling of NBA moments through payment in cryptocurrencies. Lastly, we will explore the relevant aspects of copyright law that could be applied to NFTs in the sports industry.

#### 5.1 The future of digital trade in sports

In recent years NFTs have gained considerable popularity, especially shown by media attention and growing public interest towards such tokens. As shown by our analysis, NFTs were at first mainly used in the art world. However, in recent years NFTs have also conquered the sports industry. Within such an industry, NFTs are mainly used in three different ways. The first refers to using NFTs to make sports-related products, such as clips, tradeable and collectibles.<sup>293</sup> This use of NFTs is supported by various sports leagues -such as the National Basket Association (NBA) and Major League Baseball (MLB)- that have partnered with NFTs platforms in order to launch their tokens. The second use of NFTs in the sports industry is linked to the possibility of developing new ways of fantasy sports competition through such tokens.<sup>294</sup> Indeed, platforms like Sorare and Daft Kings have developed games where users can «collect NFT cards of players and create lineups of their own to enter into competitions, with winners based on those players’ real-world performances.»<sup>295</sup> Finally,

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<sup>293</sup> Feldman, Novy-Williams, Coffey , “What NFTs Mean for Sports Business” , Sportico, (2 March 2023), <  
<https://www.sportico.com/feature/nft-meaning-non-fungible-token-crypto-1234625399/>>

<sup>294</sup> Ibid 1

<sup>295</sup> Ibid 2

NFTs are being used in the sports industry as a way of selling tickets for events. This could allow several benefits<sup>296</sup>, such as fighting ticketing fraud and allowing sports teams to track who is actually using such tickets.<sup>297</sup>

Recently, prominent sports organizations have decided to use NFTs as a way to generate revenue.<sup>298</sup> For example, the National Basketball Association (NBA) decided to launch, in collaboration with Dapper Labs, the platform NBA Top Shot. This online marketplace allows fans to purchase and sell some unique “moments” related to highlights of NBA players. The launch of NBA Top Shot by one of the main American sports associations -NBA- is a sign that the sports industry is showing its interest in the NFT world. Indeed, NFTs could benefit the sports industry in multiple ways. First of all, the emergence of sports NFTs is mainly linked to the fact that such tokens offer innovative opportunities for sports associations to track and verify the ownership of digital assets<sup>299</sup>. This specific characteristic of NFTs is specifically relevant and needed as we have witnessed in recent years that sport is increasingly managed and marketed in a digital environment. Following the success of NBA Top Shot, several leagues have decided to launch their own NFTs. Indeed, Major League Baseball and MLB players Inc partnered in 2021 with Candy Digital -a digital collectible company<sup>300</sup>- in order to create a series of NFTs based on Major League Baseball players. The collection is called “MLB ICON Leadoff NFT collectibles” and consists of 720 featured players' NFTs, which statistics updated throughout the season, becoming, therefore, some living baseball cards. Moreover, each NFT is organized according to its degree of rarity - “Core, Uncommon, Rare, Epic, and Legendary”<sup>301</sup>- allowing fans to trade and collect them.

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<sup>296</sup> See above in Section 4

<sup>297</sup> Feldman, Novy-Williams, Coffey, “What NFTs Mean for Sports Business”, Sportico, (2 March 2023), <<https://www.sportico.com/feature/nft-meaning-non-fungible-token-crypto-1234625399/>>

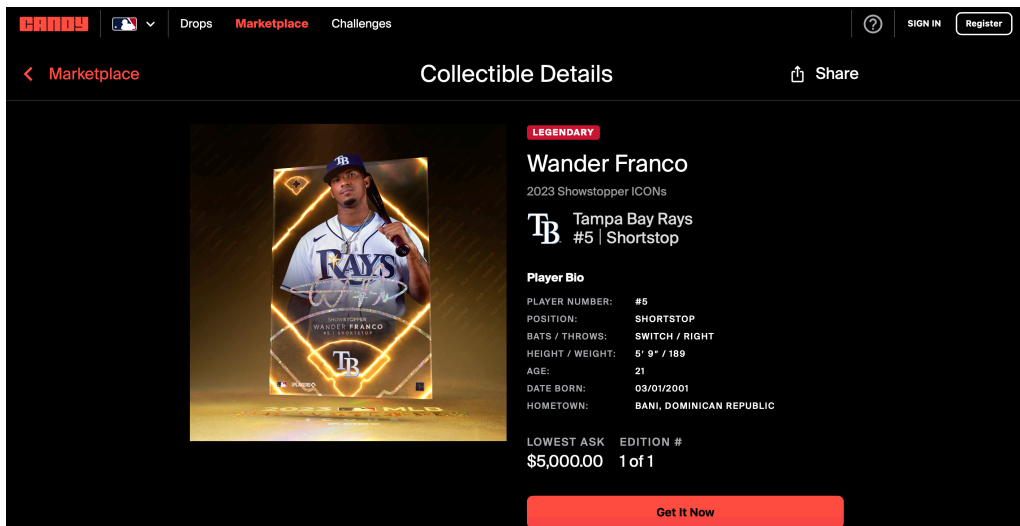
<sup>298</sup> Bradley J. Baker, Anthony D. Pizzo, and Yiran Su, “Non-Fungible Tokens: A Research Primer and Implications for Sport Management”, Sports Innovation Journal, Vol.3 (2022), <<https://doi.org/10.18060/256>>

<sup>299</sup> Ibid 1

<sup>300</sup> Henry Palattella, “MLB expands NFT partnership with Candy Digital”, MLB, (April 12, 2022) <<https://www.mlb.com/news/mlb-nft-partnership-with-candy-digital-to-expand-in-2022>>, accessed 16 March 2022

<sup>301</sup> Ibid 1





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The picture above represent the selling of Wander’s Franco NFT on Candy’s platform. This NFT is listed as Legendary as it is the only item of a specific edition. The platform settled the listing price at \$5,500,00, being the most expensive NFT listed on Candy’s platform in April 2023. The NFT is composed of a picture of Wander Franco, a Major League player, as well as a licensed video<sup>303</sup> taken from a real game highlight of such a player. The peculiarity of such an NFT, and in general of sports NFTs offered on Candy’s platform, is that besides a picture of the players, they also provide a small frame of a game highlight. Therefore, what the platforms add to the “normal trading cards” is also the possibility of owning a small video highlight. We can then conclude that what differentiates regular trading cards from sports NFTs is the fact that NFTs are interactive and dynamic. They are composed of videos and content that distinguish them from traditional physical collectibles, resulting in more engaging and interactive items for potential buyers.<sup>304</sup>

However, for the purpose of this thesis, it is relevant to analyze what NFTs' sport-related platforms offer to potential buyers. Candy’s Terms and Conditions specify that Candy Digital is a «platform and not a broker, financial institution or creditor».<sup>305</sup> This statement results in excluding the possible application of *Directive 2014/65/EU on markets in financial instruments (MiFID II)* to the tokens

<sup>302</sup> The selling of Wander Franco NFT on Candy’s platform, representing the player’s picture < <https://www.candy.com/mlb/collectibles/74cd306b-e4fb-414e-a527-83c98af68f29>>

<sup>303</sup> “MLB launches dynamic NFTs with Candy”, Ledger Insights, (12 April 2022) <https://www.ledgerinsights.com/mlb-launches-dynamic-nfts-with-candy/>, accessed 8 April 2023

<sup>304</sup> Ibid 1

<sup>305</sup> Candy Digital, Terms of use, < <https://www.candy.com/terms>>, accessed 13 April 2023

sold by the platform. Indeed, as they can't be considered financial instruments, Candy's NFTs can't be tackled by such a regulation.

Moreover, section 12 of the T&C on "Property and Intellectual Property" states that «all content of the Properties (including, without limitation, text, graphics, icons, images, clips and software) is protected by copyright, trademark, and other laws. Names, logos, taglines, icons and marks on the Properties are the exclusive property of Candy Digital, Inc. and/or one of its affiliates, licensors or partners, all rights reserved, and may not be used by you without our prior written permission and the permission of the applicable licensor. Unless otherwise indicated, all other intellectual property appearing on the Properties is the property of its respective owner. We reserve all rights not expressly granted in and to the Properties' content and Services».<sup>306</sup> This section regulates the content that can be posted on Candy's platform by users that desires to sell NFTs that were priorly minted. According to such terms, the content is protected by copyright and is the exclusive property of Candy Digital.

It is also specified that any other intellectual property that appears on the "properties" is considered to be the property of the respective owner -meaning the subject that initially minted the items and sold them on the platform. The platform also specifies, concerning buyer's rights, that «Purchasing an NFT ("Purchased NFT") entitles you to certain rights in the Purchased NFT. Solely to the extent enabled with respect to the Purchased NFT, and as further set forth below and in any applicable Additional Terms, you may transfer or sell the Purchased NFT on certain secondary marketplaces, including the NFT Marketplace (if available, as defined below) (such sale or resell, a "SecondarySale").[...] CandyDigital grants you, solely for your personal, non-commercial use, a limited, non-exclusive, non-transferable (except in connection with a Secondary Sale), non-sublicensable, revocable license to access, use, and display the content (including designs, drawings, artwork, text, images, and video) (the "NFTContent") linked to the Purchased NFT. For clarity, except for the foregoing license, neither your Purchase of the Purchased NFT nor these Terms of Use grants you any other license or rights to any other intellectual property rights (including, for example, copyright, trademarks, service marks, or rights of publicity) in the NFT Content. Purchasing an NFT does not give you ownership of the NFT Content or of any Third Party IP associated with the NFT Content. Without limiting the foregoing and subject to applicable law, you may not: (i) commercialize the Purchased NFT or NFT Content, including in connection with the marketing, advertising, or selling of any third party product; (ii) modify the Purchased NFT or NFT Content in any way or combine the Purchased NFT or NFT Content with, or embed the Purchased NFT or NFT Content

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<sup>306</sup> Ibid 1

into, any digital or other content or media; (iii) use the Purchased NFT or NFT Content in any manner which infringes upon the intellectual property rights of any person or entity; or (iv) use the Purchased NFT or NFT Content in connection with or to promote any illegal activity, hate speech, violence, inappropriate or obscene content, or in any other manner which could tarnish or harm the reputation of Candy Digital, the Candy Digital Parties, or any individual whose name, image, likeness, trademarks, or copyrighted material appears in connection with or is represented by the Purchased NFT.»

When dealing with such a topic, the platforms concludes by stating that ««the foregoing limited license: (a) does not give you any ownership of, or any other intellectual property interest in, any Properties, and (b) may be immediately suspended or terminated for any reason, in our sole discretion, and without advance notice or liability. In some instances, we may permit you to have greater access to and use of our Properties, subject to certain Additional Terms.»<sup>307</sup>

Therefore, the statements made by the Terms and Conditions of Candy Digital are very clear when dealing with the copyright of NFTs and buyer's rights. Such buyers do not have ownership or intellectual property of the NFTs they purchased or the right to commercialize, modify or use the items in a way that would infringe intellectual property law.

Indeed, Candy's project is aimed at allowing fans to collect, share and trade some official NFTs cards. What is interesting to notice is that the development of NFTs in the sports industry has allowed fans and collectors not only to collect physical cards but also to broaden their possibility of collecting through the purchase of NFTs. Indeed, the structure of an NFT is particularly suitable to fulfil every requirement a collector could have as an NFT is a tradable token which digitally represents the ownership of an asset<sup>308</sup>. The use of blockchain technology allows an indelible tracking of past and current ownership of NFTs. This means that every transfer of ownership of an NFT - characterized by the fact that it represents a digital item, meaning there is no need for a physical exchange of an asset- will be written in the blockchain. Moreover, this system allows every fan or collector to have tamper-proof traceability of every item they are interested in purchasing, making every transaction more secure.

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<sup>307</sup> Ibid 2

<sup>308</sup> Baker, Pizzo,, Su, "Non-Fungible Tokens: A Research Primer and Implications for Sport Management", Sports Innovation Journal, Vol.3 (2022), < <https://doi.org/10.18060/256>>

A characteristic feature of NFTs is that they can be used as secure collectibles by sports fans. Indeed, we can make a parallelism between NFTs and collectibles as they provide collectors with similar utilities. Collectibles are “objects of interest of value to collector”<sup>309</sup> which are traditionally linked to physical objects such as stamps, comic books, cars, coins, art or trading cards.<sup>310</sup> Such objects generally aim to fulfil collectors' financial or self-enhancement needs.<sup>311</sup> Moreover, sport-related collectibles -such as trading cards- allow collectors to own a caption of some specific legendary sportive moments that evoke a strong sense of nostalgia.<sup>312</sup> Therefore, sports collectibles can be seen as a way of making an investment or demonstrating support for a sport or a specific team or athlete.<sup>313</sup> In this whole world of sports collectible fans, NFTs are seen as the newest innovation. Indeed, NFTs offer collectors the possibility to own a digital version of a trading card that represents and captures some iconic sports moments.<sup>314</sup> The characteristics of an NFT -for instance, from NBA Top Shot- are very similar to the ones of a trading card, but they also present some structural differences. For example, when a trading card is sold to successive owners, the original team, league or card manufacturer do not receive a percentage from this additional transaction as they generally only perceive benefits from the original card selling. However, when an NFT is subsequently sold on the secondary market, typically, the initial creator receives a percentage of such selling. What characterizes this process is that normally the smart contracts that regulate the sale of an NFT provide that every subsequent selling entitles the creator to receive a percentage from following transactions.<sup>315</sup>

Another significant difference between NFTs and collectibles is linked to the concept of scarcity. NFTs are digital collectibles and, by definition, they refer to digital items that can easily be reproduced. However, what gives collectibles value is their scarcity, the difficulty of finding them in the market, which increases their price and the desire of fans to buy them.<sup>316</sup> As digital items can be easily reproduced, we should wonder what the additional value that NFTs can grant collectors is. First of all, NFTs are digital items which means that potentially every picture that is minted on the blockchain can be easily found on the internet. Therefore, the scarcity that confers value to every NFT could be seen as an illusion as often the items are not scarce. For instance, a video of LeBron

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<sup>309</sup> Ibid 1

<sup>310</sup> McIntosh, Schmeichel, “Collectors and collecting: A social psychological perspective”, *Leisure Sciences*, (2004), <<https://doi.org/10.1080/01490400490272639>>

<sup>311</sup> Ibid 1

<sup>312</sup> Baker, Pizzo,, Su, “Non-Fungible Tokens: A Research Primer and Implications for Sport Management”, *Sports Innovation Journal*, Vol.3 (2022), < <https://doi.org/10.18060/256>>

<sup>313</sup> Ibid 1

<sup>314</sup> Ibid 2

<sup>315</sup> Ibid 3

<sup>316</sup> Ibid 4

James minted as an NFT can also easily be found online and copied multiple times without damaging such a video. Therefore, we can conclude that the main difference between NFTs and collectible cards is that digital items can be copied -without losing quality- while physical cards can't be copied or easily reproduced. Once affirmed such principles, we need, however, to make some clarifications. NFTs are digital items, but their structure -the fact that there are minted and registered on the blockchain- makes it impossible for them to be stolen or even tampered with. This is because the blockchain records the ownership of every NFT, which means that every item is associated with a specific owner. We can then conclude that sports NFTs generally represent “moments” or pictures that can be easily found online and copied. However, the structure itself of an NFT makes it impossible to copy the NFT or to steal it as the blockchain associates with every item a specific owner.

Therefore, the way NFTs function makes them a valid alternative to trading cards as they allow potential collectors to own an asset that everyone else can potentially have access but while being registered on the blockchain as the legitimate owner of such NFT. What is highly innovative is that NFTs have completely revolutionized the concept of scarcity as they rely on the fact that the digital content they represent is often both simultaneous and abundant.<sup>317</sup> In the sports industry, «NFTs also play a key role in signaling social status and standing within a sport community that prioritizes true fandom and insider knowledge».<sup>318</sup>

## 5.2 The case of NBA Top Shot: a platform for the trading of NBA “unique moments”

NBA Top Shot is an NFT marketplace that was launched in 2020 and is the result of a partnership between the National Basketball Association (NBA) and Dapper Labs, an NFT Company that also launched Crypto Kitties. In September 2021, the marketplace had more than 1 million registered users, and since its creation, more than half a million of NBA Top Shot exchanges have created a volume of almost \$1 billion.<sup>319</sup> Moreover, between 150,000 to 250,000 users log every day into the platform.<sup>320</sup> According to the platform, «NBA Top Shot is the home for NBA fans to collect

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<sup>317</sup> Ibid 5

<sup>318</sup> Ibid 6

<sup>319</sup> Robyn Conti, “Guide To NBA Top Shot”, Forbes Advisor, (30 January 2023), <<https://www.forbes.com/advisor/investing/cryptocurrency/nba-top-shot/>>

<sup>320</sup> Danny Nelson, “Dapper Labs' NBA Top Shot Has Crossed the Million-User Mark”, CoinDesk, (25 May 2021), <<https://www.coindesk.com/business/2021/05/25/dapper-labs-nba-top-shot-has-crossed-the-million-user-mark/>>, accessed 13 May 2023

Moment™ NFTs of their favorite stars and team. An NFT is a one-of-a-kind, non-fungible, cryptographic token representing a unique digital asset for which there is no copy or substitute. An NFT cannot be substituted for another NFT as each NFT is distinctive and unique in some way. An NFT is not a medium of exchange and is not convertible virtual currency. Each moment is secured by the blockchain, meaning your Moment is Unique and Licensed by the NBA and NBPA.»<sup>321</sup> Moments NFTs are officially licensed as NBA collectibles, and they represent game’s highlights from the most famous basketball stars. What makes them unique is the fact that they are not regular highlights but unique NFTs minted on the blockchain.<sup>322</sup> Indeed, according to NBA Top Shot, “Moments” «include exclusive collectible details of your favorite players like On-Court Video Highlight; Guaranteed Authenticity by the NBA and NBPA ; Moment Type, Tier, Series, and Serial Number; Highlight and Player Stats ; Badges. »<sup>323</sup>

Therefore, what characterizes NBA Top Shot is the fact that it allows users and sports fans to «buy, sell and trade basketball video clips»<sup>324</sup> minted as NFTs. Therefore, NBA Top Shot is an online marketplace of NBA highlights NFTs.<sup>325</sup> What confers credibility and prestige to NBA Top Shot is that the highlights the platform is selling are directly licensed by the NBA. Moreover, the platform uses the support of Dapper Lab’s Flow blockchain to mint and trade digital assets. A blockchain can be defined as «a decentralized, distributed, and oftentimes public, digital ledger consisting of records called blocks that are used to record transactions across many computers so that any involved block cannot be altered retroactively, without the alteration of all subsequent blocks.»<sup>326</sup>

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<sup>321</sup> Top Shot 101: What is NBA Top Shot?”, NBA Top Shot, <<https://support.nbatopshot.com/hc/en-us/articles/4404115400595-Top-Shot-101-What-is-NBA-Top-Shot->>, accessed 14 May 2023

<sup>322</sup> “What are Moment™ NFTs?”, NBA Top Shot, <<https://support.nbatopshot.com/hc/en-us/articles/4404116274451>>, accessed 14 May 2023

<sup>323</sup> Ibid 1

<sup>324</sup> Robyn Conti, “Guide To NBA Top Shot”, Forbes Advisor, (30 January 2023), <<https://www.forbes.com/advisor/investing/cryptocurrency/nba-top-shot/>>

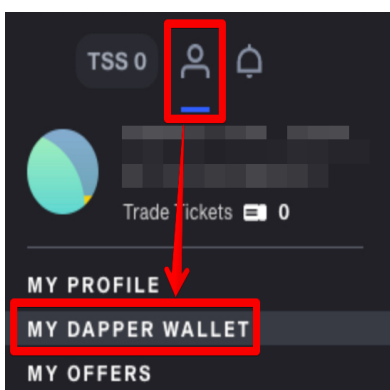
<sup>325</sup> Jasraj Shergill, “Bought an NBA Top Shot NFT? What Did You Actually Buy?”, Lexology, (29 July 2021), <<https://www.lexology.com/library/detail.aspx?g=6d4d1894-f8cb-4640-b764-b7771a8b77cb>>

<sup>326</sup> “Flow Blockchain”, NBA Top Shot, <<https://support.nbatopshot.com/hc/en-us/articles/1500002632021-The-Flow-Blockchain>>, accessed 19 May 2023

The Flow blockchain was created by Dapper Labs and is accordingly <sup>327</sup> unique for four specific features:

- A multi-role architecture: which allows the network to serve a wide range of users without reducing the decentralization of consensus
- Resource-orientated programming: Flow is using Cadence to write smart contracts, which they define as an easier and safer programming language for crypto-assets and apps.
- Developer ergonomics: the smart contract can always be upgraded, and the structure of the blockchain provides a registration support
- Consumer onboarding: Flow is specifically designed to be used by mainstream consumers, allowing them to pay in cryptocurrencies

The use of Flow blockchain in every platform supported by Dapper Lab, has made possible the development of the “Dapper Wallet” system<sup>328</sup>. This creation allows users to store in their wallet the various items they purchase and sell. In addition, Dapper wallet is used by every platform that is supported by Dapper Lab, allowing users to concentrate all of their items into a single wallet that has the role of holding users' funds on the platforms and securing their NFTs. Moreover, Dapper also approves and stores every transaction users make and ensures, with this system, that their collections of NFTs are safely stored. Users can also easily navigate through their Dapper Wallet and manage the item they purchased. However, the Dapper Wallet cannot be used on OpenSea as it does not support Flow NFTs.



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<sup>327</sup> Ibid 1

<sup>328</sup> “Introducing the Dapper Wallet”, NBA Top Shot, <<https://support.nbatopshot.com/hc/en-us/articles/360061232514-Introducing-the-Dapper-Wallet>>, accessed 16 May 2023

<sup>329</sup> “Navigating to your Dapper Wallet”, NBA Top Shot, <<https://support.nbatopshot.com/hc/en-us/articles/7847745985299-Navigating-to-your-Dapper-Wallet>>, accessed 16 May 2023

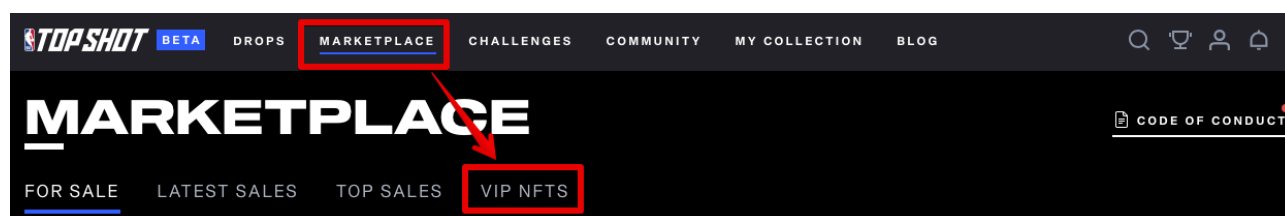
NBA Top Shot sells unique “moments” of NBA video highlights, which are simply video clips of a specific player. Therefore, the same question we asked ourselves in the introduction could be asked here, accordingly, what is the purpose of buying an item that represents a highlight that can easily be found online? The answer is linked to the fact that “moments” indeed represent videos that could be found online, but they are also much more than simple highlights. This is because on NBA Top Shot, “moments” are represented by officially NBA-licensed NFTs and minted «with a unique serial number and data, including game and player stats.» NFTs provided by NBA Top Shot can be compared to a certificate of authenticity as the platforms' technology makes it very difficult to counterfeit or replicate every NFT.

NBA Top Shot has a specific marketplace <sup>330</sup> where users can both sell and buy “moments”. According to the platform, such a marketplace is accessible to collectors worldwide 24/7.<sup>331</sup> Users can navigate through the marketplace while using specific filters, in order to find the NFT related to their favorite players, teams or plays to add to their personal collection.<sup>332</sup>

For the services it provides, the platform applies a fee of 5%. Therefore, if, for instance, an NFT is listed at \$10.00 and then sold, the seller will receive \$9.50, and the platform will take the rest.<sup>333</sup>

For what concerns the buying of NFTs, NBA Top Shot allows collectors to buy NFTs during pack drop or challenges, or in a second time throughout the marketplace.<sup>334</sup> Collectors can also sell Moments they previously purchased -and added to their Dapper Wallet- to other collectors. To purchase “Moments”, users should head directly to the NBA Top Shot website and select the Marketplace option in the bar. Once, they have found the “Moment” they want to purchase, they can directly buy it by clicking on the specific button under the picture. However, before buying the “Moments”, users can -after clicking on the item- have access to a whole list of details regarding the

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<sup>331</sup> “The NBA Top Shot Marketplace”, NBA Top Shot, <https://support.nbatopshot.com/hc/en-us/articles/1500002783822-The-NBA-Top-Shot-Marketplace>, accessed 15 May 2023

<sup>332</sup> Ibid 1

<sup>333</sup> “Marketplace Fees”, NBA Top Shot, <<https://support.nbatopshot.com/hc/en-us/articles/1500003409882-Marketplace-Fees>>, accessed 16 May 2023

<sup>334</sup> “Buying, Listing and Delisting Moments”, NBA Top Shot, < <https://support.nbatopshot.com/hc/en-us/articles/7548081741587-Buying-Listing-and-Delisting-Moments>>, accessed 15 May 2023



specific NFT. Those details includes<sup>335</sup> the average sale price and the lowest sale price the NFT is currently listed at, as well as the list of serials numbers that are available to purchase for the specific Moment. Once the purchase is completed, the item will be sent to the users and added to its Dapper Wallet.

However, users can also sell the “Moments” they have previously purchased, through the platform marketplace. Indeed, users can decide to sell every “Moment” they have in their Dapper Wallet. To do so, they have to set a price they would like to sell their item at and place their NFT in NBA Top Shot Marketplace. If another user purchases such an item at the listed price, the seller will receive the money in his wallet and sell the NFT. However, users can always delist the Moment, but only before it is sold.<sup>336</sup>

In order to buy NFTs, collectors will have to use their Dapper Balance, which represents the funds available to use in the NBA Top Shot marketplace. Moreover, the funds can also be used for all Dapper Sports products, such as NBA Top Shot, NFL ALL DAY, La Liga Golazos and UFC Strike.<sup>337</sup> Every operation -purchases, deposits, sales or withdrawals- will be registered on the Dapper Balance and will reflect the balance users have displayed on their account.<sup>338</sup> Finally, users can purchase Dapper Balance through their credit or debit card or cryptocurrency.

Therefore, NBA Top Shot is a platform that provides collectors multiple chances to buy and exchange NFTs of their favorite players and teams. However, once established how NBA Top Shot operates, we should continue our study by closely analyzing the rights buyers are provided with when purchasing a unique “Moment”.

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<sup>335</sup> Ibid 1

<sup>336</sup> Ibid 3

<sup>337</sup> “Introducing Dapper Balance”, NBA Top Shot, <https://support.nbatopshot.com/hc/en-us/articles/1500002632101-Introducing-Dapper-Balance>, accessed 18 May 2023

<sup>338</sup> Ibid 1

### 5.3 Copyright law applied to NFTs in the sports industry

In the previous section, our analysis focuses on the role NFTs have in the sports industry. NFTs have become more important within this sector in recent years, allowing the growth and expansion of several platforms. We have examined sports NFTs that platforms like NBA Top Shot and Candy offer to customers. Moreover, we have seen that sports NFTs can also be related to various products such as clips, collectibles and sports tickets. However, we should also address the issue of what specific rights sports NFTs provide their owner with, and how copyright law can be applied to such a type of NFTs. In the first section of this chapter, we determined that according to Candy's Terms and Conditions (T&C), buyers do not have ownership or any intellectual property rights on the NFTs they purchase on the platform. Moreover, they are also not granted the right to commercialize, modify or use the items in a way that would infringe intellectual property law.<sup>339</sup>

Concerning NBA Top Shot NFTs, purchasers are «given a verified ownership of a URL that links to a site where the NBA highlight is located.»<sup>340</sup> Therefore, this means that the NFT is created first by whoever has the copyright of a digital file or asset -for NBA Top Shot, the copyright owner is NBA. While some types of NFTs can grant their buyers with copyright ownership, NBA Top Shot NFTs present several restrictions that apply to the right to commercially exploit the NFT and to make reproductions of it. Indeed, the Terms & Conditions(T&C) of NBA Top Shot specifies that «For the purposes of this Section 4, the following capitalized terms will have the following meanings:

“Art” means any art, design, and drawings (in any form or media, including, without limitation, video or photographs) that may be associated with a Moment that you Own.

“Own” means, with respect to a Moment, a Moment that you have purchased or otherwise rightfully acquired from a legitimate source (and not through any of the Category B Prohibited Activities (as defined below)), where proof of such purchase is recorded on the Flow Network.

“Purchased Moment” means a Moment that you Own.

“Third Party IP” means any third-party patent rights (including, without limitation, patent applications and disclosures), copyrights, trade secrets, trademarks, know-how or any other intellectual property rights recognized in any country or jurisdiction in the world. »<sup>341</sup> Therefore, NBA Top Shot T&C clearly states that buyers will own a Moment and that such a purchase is recorded

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<sup>339</sup> Candy Digital, Terms of use, < <https://www.candy.com/terms>>, accessed 13 April 2023

<sup>340</sup> Jasraj Shergill, “Bought an NBA Top Shot NFT? What Did You Actually Buy?”, Lexology, (29 July 2021), < <https://www.lexology.com/library/detail.aspx?g=6d4d1894-f8cb-4640-b764-b7771a8b77cb>>

<sup>341</sup> “NBA Top Shot Terms & Conditions, Section 4: Ownership, license and ownership restrictions”, <<https://nbatopshot.com/terms>>, accessed 19 May 2023

on the Flow blockchain. However, regarding the specific ownership of such NFT, the T&C precises that « (i) Ownership of Moment. Because each Moment is an NFT on the Flow Network, when you purchase a Moment in accordance with these Terms (and not through any of the Category B Prohibited Activities), you own the underlying NFT completely. This means that you have the right to swap your Moment, sell it, burn it, exchange it, upgrade it or give it away to the extent that such uses are made available in the App..»<sup>342</sup>

What is affirmed in this T&C section is particularly relevant to understand what types of rights buyers are granted when purchasing an NFT on NBA Top Shot. Indeed, according to the T&C, if buyers purchase a “Moment” in accordance with what is stated in such T&C, they will completely own the NFT. Such ownership gives them the right to swap, sell, burn, exchange, upgrade or give away their NFT, but all to the extent that such specific use is accepted by the functioning of the platform. However, the ownership of the NFT is restrained to such activities as, with the purchase, buyers will not earn any legal rights or intellectual property rights linked to the NFT they purchase. Indeed, in the T&C, NFT Top Shot clearly states that «(ii) We Own the App. You acknowledge and agree that we (or, as applicable, our licensors) owns all legal right, title and interest in and to all other elements of the App, and all intellectual property rights therein (including, without limitation, all Art, designs, systems, methods, information, computer code, software, services, “look and feel”, organization, compilation of the content, code, data, and all other elements of the App (collectively, the “App Materials”)). You acknowledge that the App Materials are protected by copyright, trade dress, patent, and trademark laws, international conventions, other relevant intellectual property and proprietary rights, and applicable laws. All App Materials are the copyrighted property of us or our licensors, and all trademarks, service marks, and trade names associated with the App or otherwise contained in the App Materials are proprietary to us or our licensors. »<sup>343</sup> What the platform states in this section is particularly relevant for buyer’s rights as it specifies that either the platform or the licensors own all legal rights and all intellectual property rights related to the NFTs and to any other elements of the App. Moreover, the T&C indicates what is protected under legal and intellectual property rights, accordingly «without limitation, all Art, designs, systems, methods, information, computer code, software, services, “look and feel”, organization, compilation of the content, code, data, and all other elements of the App». <sup>344</sup> Therefore, users are not granted any ownership, copyright or any type of rights in relation to the activities listed. Moreover, buyers «do not have the right, except as otherwise set forth in these Terms, to reproduce, distribute, or otherwise commercialize any elements of the

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<sup>342</sup> Ibid 1

<sup>343</sup> Ibid 2

<sup>344</sup> Ibid 3

App Materials (including, without limitation, any Art) without our prior written consent in each case, which consent we may withhold in our sole and absolute discretion». <sup>345</sup> Therefore, buyers' rights are restricted by the platform to some specific categories of activities that involve «the right to a worldwide, non-exclusive, non-transferable, royalty-free license to use, copy, and display the Art for your Purchased Moments, solely for the following purposes: (a) for your own personal, non-commercial use; (b) as part of a marketplace that permits the purchase and sale of your Purchased Moments (...); (c) as part of a third-party website or application that permits the inclusion, involvement, or participation of your Purchased Moment, provided that the website/application cryptographically verifies each Moment's owner's rights to display the Art for their Purchased Moment to ensure that only the actual owner can display the Art, and provided that the Art is no longer visible once the owner of the Purchased Moment leaves the website/application». <sup>346</sup> Therefore, buyer's rights are strictly limited to the possibility “to use, copy or display”<sup>347</sup> the “Moments” they have purchased but only for their personal and non-commercial use, for the selling of the NFTs, or for the inclusion of such Moment in a third-party website. What is stated in the T&C is extremely important to understand what are the buyer's rights and the fact that with their purchase, they do not own any type of copyright in relation to NBA Top Shot NFTs. In addition, the T&C also includes a list of restrictions on ownership for buyers. Such a list states that buyers «may not, nor permit any third party to do or attempt to do any of the foregoing without our (or, as applicable, our licensors') express prior written consent in each case: (a) modify the Art for your Purchased Moment in any way, including, without limitation, the shapes, designs, drawings, attributes, or color schemes; (b) use the Art for your Purchased Moment to advertise, market, or sell any third party product or service; (c) use the Art for your Purchased Moment in connection with images, videos, or other forms of media that depict hatred, intolerance, violence, cruelty, or anything else that could reasonably be found to constitute hate speech or otherwise infringe upon the rights of others; (d) use the Art for your Purchased Moment in movies, videos, or any other forms of media, except to the limited extent that such use is expressly permitted in these Terms or solely for your own personal, non-commercial use; (e) sell, distribute for commercial gain (including, without limitation, giving away in the hopes of eventual commercial gain), or otherwise commercialize merchandise that includes, contains, or consists of the Art for your Purchased Moment; (f) attempt to trademark, copyright, or otherwise acquire additional intellectual property rights in or to the Art for your Purchased Moment; or (g) otherwise utilize the Art for your Purchased Moment for your or any third party's commercial benefit.

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<sup>345</sup> Ibid 4

<sup>346</sup> Ibid 5

<sup>347</sup> Ibid 6

»<sup>348</sup> Therefore, not only do buyers not own any type of intellectual property rights for the NFTs they purchase, but they also cannot use the art displayed on such NFTs for commercial purposes, modify such art or even try to acquire additional intellectual property rights in relation to the NFT they purchase. Indeed, for Top Shot the copyright owner of every art that is used to create the NFTs is NBA.<sup>349</sup> This means that Dapper Lab mints every NFT thanks to pieces of art that the NBA provides. As a result, every NFT that is created and then sold presents several restrictions for buyers for the rights they can provide them in relation to their acquisition. Indeed, the main restrictions Top Shot T&C states are that buyers can't use for commercial purposes such NFTs, and they do not own any type of copyright in relation to the underlying art that is originally used to create the NFT – the video clip, or the image of an NBA player. What NBA is selling to its 'collectors' is only a license of the game highlight that is represented in the NFT.<sup>350</sup> Therefore, NFTs buyers do not own any type of underlying copyright, that is kept by the NBA. This is because the acquisition of an NFT does not transfer intellectual property rights on the underlying piece of art, buyers are not granted the specific rights that authors can enjoy, such as the right to, distribute, reproduce exploit the NFT.<sup>351</sup> What is crucial to understand is that this means that the *Information Society Directive* can't grant buyers the specific right it protects as they can't be considered the owners of the copyright related to the NFTs purchased.

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<sup>348</sup> Ibid 7

<sup>349</sup> Jasraj Shergill, "Bought an NBA Top Shot NFT? What Did You Actually Buy?", Lexology, (29 July 2021), <<https://www.lexology.com/library/detail.aspx?g=6d4d1894-f8cb-4640-b764-b7771a8b77cb>>

<sup>350</sup> Ibid 1

<sup>351</sup> Ibid 2

## **CHAPTER 2: THE ISSUE OF NFTs**

In the first part of this thesis, we have centered our analysis on three different types of NFTs that are becoming recently more popular: art NFTs, music NFTs and sports NFTs. Such analysis has allowed us, to categorize the general type of NFTs while understanding their main functioning as well as the way smart contracts shape the minting process and regulate their selling. Moreover, in Section 2, we have seen what the principles of copyright law in relation to NFTs are. Such an analysis is fundamental for the purpose of this thesis as it has allowed us to determine what are the possible pieces of legislation that can be applied to NFTs. Indeed, starting by analyzing the copyright core principles, our analysis has tackled the various types of platforms' liability, the notice and takedown procedure and the principle of authenticity that characterizes the structure of the blockchain. The breadth of our analysis and the variety of topics covered naturally requires us to finish our thesis by addressing what are the copyright issues linked to NFTs (Section 6) and what are the issues raised for NFTs related to artworks, the music world, and the sports industry (Section 7).

## Section 6: Copyright issues linked to NFTs: the state of the art of NFTs in the Metaverse

### 6.1 The creation of an NFT

### 6.2 Copyright and NFTs

NFTs are an innovative tool that can bring several benefits to different parties. Indeed, they offer artists the possibility to create digital tokens of their artworks and transform them into unique and rare tokens that can acquire a notable value. They, therefore, consent artists to exploit their art in a new way. Furthermore, the functioning of the smart contracts that regulate NFTs brings the opportunity to completely automate the process of resale royalties in case of secondary sales of NFTs.<sup>352</sup> We can clearly state that the benefits of NFTs are various and incontestable. However, such uses bring several concerns from a copyright perspective. In order to address these issues, it is relevant to analyze the various steps in the creation and selling of an NFT that are legally relevant.

### 6.1 The creation of an NFT

As stated by Frye et al., «A “non-fungible token” or “NFT” is an encrypted unit of data on a digital ledger, typically a “blockchain.” An NFT is a “token,” because it consists of a particular unit of data. And an NFT is “non-fungible” because only the owner of the NFT can access or transfer that particular unit of data. Essentially, an NFT is a unique “digital object” that someone can own, sell, or buy. »<sup>353</sup> Therefore, an NFT is basically a cryptographic tool that, by using blockchain technology, creates a non-fungible asset that can be traded and owned. The blockchain conveys credibility to the NFT as it «serves as an immutable ledger of ownership of the NFT. »<sup>354</sup> From a technical perspective, an NFT consist of a series of number that create a “*tokenID*” as well as an address commonly called a “*smart contract*”. Both of these codes are unique and stored on a blockchain, which confers to the

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<sup>352</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>353</sup> Frye, Brian, “NFTs & the Death of Art”, (19 April 2022), <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3829399](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3829399)>

<sup>354</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

NFT the characteristic of being unique, and therefore characterized as “non-fungible.”<sup>355</sup> As we have seen in the First section, the technical basis that supports the creation of NFTs was created in 2018 through the Ethereum blockchain and relies on the ERC-721 standard.<sup>356</sup> This standard type characterizes non-fungible goods, which can also be original physical goods that are successively represented in a digital form and then turned into an NFT.<sup>357</sup> Moreover, according to such a standard, every NFT has to fulfil some specific functionalities and properties<sup>358</sup>, which are:

- a tokenID: it consists of the fact that every NFT needs to have an ID number that is generated after the minting process, and that is unique at it refers to only a specific NFT
- a contract address: that refers to the blockchain address of the smart contract that has been used to generate the NFT

The ERC-721 standard was initially used on Ethereum to create Cryptopunks, and since then, it has been used to turn digital art, music albums or pictures into NFTs.<sup>359</sup> As we have seen in our previous analysis, generally, there are various types of NFTs, but the most common one consists in a metadata file that contains encoded information and a version of the tokenized work. However, an NFT can also be created by uploading the whole version of the work on the blockchain. Such a method is less common nowadays as it is very expensive to upload some pieces of information on the blockchain.<sup>360</sup> What is relevant to understand is that the core part of every NFT is the smart contract which is «a software that can execute, control and/or document certain actions. »<sup>361</sup> Smart contracts are characterized by the fact that they consist in code and data that specifically refers to an address on the blockchain. Such features are responsible for creating an account in the blockchain (Ethereum) that can be the target of transactions. Moreover, smart contracts can also define the rules of a contract and automatically execute them through the code. They also can't be deleted, which means that every interaction created with the smart contract is irreversible.<sup>11</sup> Smart contracts are extremely important for the functioning of NFTs as they allow the self-execution of the functions defined in their code.<sup>362</sup> For instance, a specific function of the smart contract can allow an automatic transfer of the NFT

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<sup>355</sup> Ibid 1

<sup>356</sup> Andrew Guadamuz, “What do you actually own when you buy an NFT?”, World Economic Forum, (7 February 2022), < <https://www.weforum.org/agenda/2022/02/non-fungible-tokens-nfts-and-copyright/>>

<sup>357</sup> Ibid 1

<sup>358</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>359</sup> Andrew Guadamuz, “What do you actually own when you buy an NFT?”, World Economic Forum, (7 February 2022), < <https://www.weforum.org/agenda/2022/02/non-fungible-tokens-nfts-and-copyright/>>

<sup>360</sup> Ibid 1

<sup>361</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>362</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>



ownership when the buyer transfers the money to the seller. Such features can automatize every transfer without the need for third-party intervention.<sup>363</sup> Moreover, another typical characteristic of smart contracts is that once an NFT is resold, the author of the digital work will automatically receive a resale royalty for such a sale.

In the process of creating an NFT, it is worth analyzing briefly another fundamental aspect, which is the minting process. As we have seen in the First section, “minting an NFT” refers to the «process of publishing a tokenID for the unique token on a blockchain».<sup>364</sup> In order to mint an NFT, it is necessary that the associated smart contract is already registered in the blockchain. Indeed, the creation of an NFT consists of three main steps:<sup>365</sup>

- the creation of a new block
- the validation of the information
- the record of the information in the blockchain

Once this process is completed, the NFT is created and linked to the specific account of the person who created it.

Understanding the minting process is extremely important when dealing with copyright law and NFTs. Indeed, we have seen that from a legal perspective, what is particularly relevant is to determine how NFTs can interact with copyright law. Therefore, to assess how NFTs are created, it is necessary to analyze Off-chain and On-chain NFTs. Generally, the tokenized content related to the NFTs -the files and the metadata- can be stored inside or outside the blockchain.<sup>366</sup>

The functioning of Off-chain blockchains relates to the fact that the smart contract does not store in the blockchain any metadata associated with the NFT but only indicates an “off-blockchain storage location”.<sup>367</sup> This means that the smart contract is hosted on the blockchain, but the media to which

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<sup>363</sup> Ibid 1

<sup>364</sup> Ibid 2

<sup>365</sup> “Non-fungible tokens”, Ethereum, < <https://ethereum.org/en/nft/#how-nfts-work> >

<sup>366</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses> >

<sup>367</sup> Ibid 1

the NFT refers is “off-chain”. The data are therefore stored in clouded servers -such as Dropbox, Google Drive or IPFS<sup>368</sup>-. In order to access such metadata, users generally have to search for an HTTP or FTP system and access or download the relevant file. However, such a system raises several concerns as it does not guarantee lifetime access to the metadata associated with the NFT. Indeed, if the server goes down or the cloud no longer operates, the link that would allow the owner of an NFT to access the data will be removed. <sup>369</sup>

Off-chain NFTs are currently the most used way of linking NFTs and the assets they represent. However, such a way of function can be considered technically risky as «there is no guarantee that the file will not be subsequently replaced or overwritten by a file with the same name.»<sup>370</sup> Moreover, for Off-chain NFTs, there is also the risk that if the link that contains the metadata file no longer operates, the smart contract and the relevant NFT would be left without relevant data to point to. In this case, the NFT would still exist – meaning the tokenID and the smart contract address- but the potential buyer of such NFT would only have a tokenID and no file or digital work to refer to.<sup>371</sup> If this situation occurs, it seems evident that the selling of an NFT would lose his interest and appeal, and therefore, also the token would lose all of its value.

On the other hand, On-chain NFTs offer the possibility to upload directly on the blockchain the digital work to which the NFTs refer. In this case, the relevant file would be stored on the blockchain with the NFT’s smart contract.<sup>372</sup> Therefore, On-chain NFTs are “both written and stored on the blockchain”.<sup>373</sup> Such a way of functioning is much safer for NFTs owners as the “digitally tradable copy of the work or an image of the physical asset” is permanently stored on the blockchain. However, such a method is not preeminently used as it requires stronger computer capacities and is also extremely expensive.

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<sup>368</sup> “On-Chain Vs. Off-Chain NFTs Explained”, Pastel (15 September 2022), < [<sup>369</sup> Ibid 1](https://pastel.network/on-chain-vs-off-chain-nfts-explained/#:~:text=What%20Are%20Off%2DChain%20NFTs,(interplanetary%20file%20system)%20nodes.></a></p></div><div data-bbox=)

<sup>370</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>371</sup> Ibid 1

<sup>372</sup> Ibid 2

<sup>373</sup> “On-Chain Vs. Off-Chain NFTs Explained”, Pastel (15 September 2022), < [90](https://pastel.network/on-chain-vs-off-chain-nfts-explained/#:~:text=What%20Are%20Off%2DChain%20NFTs,(interplanetary%20file%20system)%20nodes.></a></p></div><div data-bbox=)

## 6.2 Copyright and NFTs

In the previous section, we have illustrated how NFTs are created and what are the core elements that characterize them. Such an analysis was necessary to address the copyright issues regarding NFTs. We have seen that the novelty of NFTs is the reason why there is still a lack of relevant copyright laws that manage their functioning. However, to offer some possible solutions to the existing issues, it is first necessary to determine how NFTs interact with copyright law.

Intellectual property rights must be respected in every phase, either in the creation, selling, or reselling phases of NFTs. First, since every user can anonymously participate in the blockchain by only using a wallet ID and a user name<sup>374</sup>, it seems very difficult to identify and sanction some possible intellectual property violations that occur in the minting process. NFTs can potentially relate to every digital content that can be minted and digitally represented. This means that an NFT can either refer to a digital or physical artwork that can be captured in an image and then sold as an NFT.<sup>375</sup>

The enthusiasm surrounding NFT is mainly caused by the fact that they allow the creation of unique artworks in an environment where generally, digital artworks can be easily found on the internet and reproduced an infinite number of times.<sup>376</sup> A proper characteristic of NFTs is that they «can be created for any digital asset for which a unique or limited number of pieces is important and thus give such digital asset, formerly without any value due to its ubiquitous nature, a real value. »<sup>377</sup> Moreover, because the blockchain is immutable, the ownership of the asset represented by an NFT can potentially be proved through such a system.

However, most of the works that have been used to support the creation of an NFT are very often subject to copyright protection.<sup>378</sup> Indeed, considering that anything that can be digitized can potentially be used to create an NFT, such issues seem to have a considerable magnitude. The study of copyright issues related to NFTs is necessary and relevant as, in general, most of the works of art

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<sup>374</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>375</sup> For instance it is the case for the Rembrandt’s painting “Night Watch”

<sup>376</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>377</sup> Ibid 1

<sup>378</sup> Andrew Guadamuz, “What do you actually own when you buy an NFT?”, World Economic Forum, (7 February 2022), < <https://www.weforum.org/agenda/2022/02/non-fungible-tokens-nfts-and-copyright/>>

used to support NFTs creation are protected by copyright. Moreover, such an analysis is also needed because there is a lack of legal clarity when determining what rights NFTs confer to their owners. As we have seen in Section 1, there is no specific regulation for NFTs within the European Union.<sup>379</sup>

However, we could consider one main piece of legislation that could be seen as suitable for regulating NFTs which is the *Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937, (MiCA)*, that was finally approved on the 20<sup>th</sup> of April 2023 by the European Parliament. The Regulation is aimed at regulating crypto-assets. The first draft of the Regulation explicitly excluded NFTs from its scope. Indeed, in Recitals (6b), the initial draft stated that «This Regulation should not apply to crypto-assets that are unique and not fungible with other crypto-assets, including digital art and collectibles, whose value is attributable to each crypto-asset's unique characteristics and the utility it gives to the token holder.»<sup>380</sup> Moreover, Recital (6c) continued by affirming that «The fractional parts of a unique and non-fungible crypto-asset should not be considered unique and not fungible. The issuance of crypto-assets as non-fungible tokens in a large series or collection should be considered as an indicator of their fungibility. The sole attribution of a unique identifier to a crypto-asset is not sufficient to classify it as a unique or not fungible. The assets or rights represented should also be unique and not fungible for the crypto-asset to be considered unique and not fungible. The exclusion of crypto-assets that are unique and not fungible from this Regulation is without prejudice to qualification of such crypto-assets as financial instruments.»<sup>381</sup> Therefore, without any doubt, the first Draft addressed the topic of NFTs and excluded them from its scope. As we have seen in Section 1, in the last version of the Draft that the European Parliament has finally adopted, NFTs are excluded from the scope of the Regulation because they do not fall within the definition of security tokens.

Once excluded NFTs from the scope of MiCa, we should therefore understand what their legal nature is. Throughout our analysis, we have seen that the rights NFTs can grant their owner with depend on the underlying smart contract associated with the NFT.

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<sup>379</sup> Di Bernardino, Chomczyk Penedo, Ellul, Ferreira, Goldbeck, Herian, Siadat, Siedler “NFT - Legal Token Classification”, EU Blockchain Observatory and Forum NFT Reports, (24 July 2021), 5

<sup>380</sup> European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937 (MiCA), < [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CONSIL:ST\\_13198\\_2022\\_INIT&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CONSIL:ST_13198_2022_INIT&from=EN) >

<sup>381</sup> Ibid 1

In general, the buyer of an NFT acquires two main rights<sup>382</sup>:

- The right to have the NFT in his crypto-wallet
- The right to resell his NFT

It is, however, unclear if the civil law rules related to ownership can apply to NFTs as they normally refer to physical objects.<sup>383</sup> Moreover, buyer's rights also depend on what is stated on the T&C of the platform where the NFT is sold. Therefore, as those factors vary from platform to platform, there is no current uniform legal nature of NFTs.

In some cases, the buyer of an NFT can also acquire the right to use the work that the NFT represents, but this depends if such an agreement was made before the purchase. We should consider that if nothing is agreed upon, «the buyer does not acquire any rights going beyond what is provided for in exceptions for private use».<sup>384</sup> Such a statement relies on what is affirmed in Article 5 Nr 2 b) of the *Information Society Directive*, accordingly that «Member States may provide for exceptions or limitations to the reproduction right provided for in Article 2 in the following cases: (...) (b) in respect of reproductions on any medium made by a natural person for private use and for ends that are neither directly nor indirectly commercial, on condition that the rightholders receive fair compensation which takes account of the application or non-application of technological measures referred to in Article 6 to the work or subject-matter concerned».<sup>385</sup>

The need to determine what type of rights NFTs owners have is crucial in order to understand what type of copyright issues the selling of NFTs can raise. Indeed, a wide range of copyright infringement can occur during the creation or selling of NFTs. Such issues are mainly linked to the possible unauthorized use of contents in the minting process or to questions related to the need to protect generative artworks.

For what concerns the minting process, in principle, only the author of an artistic work can legally create an NFT representing his work. This is because the upload of the image that is necessary to create and sell the NFT is considered a “reproduction” of an artistic work in the sense of Article 2 of

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<sup>382</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>383</sup> Ibid 1

<sup>384</sup> Ibid 2

<sup>385</sup> Article 5 Nr. 2 b) Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society

the *Information Society Directive*. Such an article protects the artist's reproduction rights by stating that «Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part:

- (a) for authors, of their works;
- (b) for performers, of fixations of their performances;
- (c) for phonogram producers, of their phonograms;
- (d) for the producers of the first fixations of films, in respect of the original and copies of their films;
- (e) for broadcasting organisations, of fixations of their broadcasts, whether those broadcasts are transmitted by wire or over the air, including by cable or satellite. »<sup>386</sup>

Therefore, according to Article 2 of the *Information Society Directive*, only the author has the right to authorize or prohibit the reproduction of his work, unless he has previously transferred such a right to a third party.<sup>387</sup> The minting of an NFT and the display of the associated picture in an NFT marketplace are both considered a reproduction of the artist's work. Indeed, it seems evident that the display of NFT's picture in a marketplace contrasts with the reproduction right affirmed by Article 2 of the *Information Society Directive*. Moreover, also the minting process can interfere with such a right.

The first risk that could occur in the minting process is the non-match between the subject that creates the NFT with the artist that created the work of art. Moreover, the preparatory steps that are necessary to create the NFT could infringe on the reproduction right affirmed in Article 2. This infringement could, for example, occur in the case where the protected content would be reproduced in the smart contract.<sup>388</sup> All of the three steps that constitute the minting process -the creation of the source, the creation of the metadata and the minting of the token-<sup>389</sup> could also interfere with Article 2 and Article 3 of the *Information Society Directive*. Indeed, if we have seen what could be the possible infringement of the minting process with Article 2, Article 3 could also possibly be violated as it states that «Member States shall provide authors with the exclusive right to authorise or prohibit any

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<sup>386</sup> Article 2 of the Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society

<sup>387</sup> Garbers-von Boehm, Haag, "Intellectual Property Rights and Distributed Ledger Technology", European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>388</sup> Andres Guadamuz "The treachery of images: non-fungible tokens and copyright", *Journal of Intellectual Property Law & Practice*, 2021

<sup>389</sup> Garbers-von Boehm, Haag, "Intellectual Property Rights and Distributed Ledger Technology", European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them. » Therefore, as in the minting process, the work can be communicated to the public; an unauthorized creation of an NFT can also violate Article 3. However, in order to determine any possible violation of copyrights in the minting process, we should analyze the main issues that can arise in the two types of minting that exist: the Off-chain and the On-chain minting of an NFT.

As we have seen in the previous section, the Off-chain minting of an NFT starts with the creation of the source, which consists in uploading an asset to an online database.<sup>390</sup> In this first phase, the author's work is uploaded to an online storage, and therefore, such uploading can be considered as an act of reproduction to the public in accordance with what is stated in Article 2 of the *Information Society Directive*. Moreover, such uploading infringes Article 2 as «The right of reproduction is an exclusive author's right, which means unauthorized minting infringes that exclusive right. »<sup>391</sup> This step of the minting process can also possibly infringe Article 3 of the *Information Society Directive*. According to such an article, to have a “communication to the public”, two requirements must be fulfilled:

- The existence of an act of communication
- And the fact that such communication must be directed to the public

In order to determine what Article 3 means by “public” it is relevant to reference to the CJEU case Law. Indeed, in *Land Nordrhein-Westfalen and Dirck Renckhoff* the CJEU specified that «This right should be understood in a broad sense covering all communication to the public not present at the place where the communication originates. This right should cover any such transmission or retransmission of a work to the public by wire or wireless means, including broadcasting. This right should not cover any other acts. »<sup>392</sup> Moreover, in paragraph 22 of such a Judgement the Court specified that «So far as concerns the second of the abovementioned criteria, that is, that the protected work must in fact be communicated to a ‘public’, it follows from the case-law of the Court that the concept of ‘public’ refers to an indeterminate number of potential recipients and implies, moreover, a fairly large number of persons (judgments of 13 February 2014, *Svensson and Others*, C-466/12,

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<sup>390</sup> Ibid 1

<sup>391</sup> Ibid 2

<sup>392</sup> *Land Nordrhein-Westfalen and Dirck Renckhoff*, Case C-161/17, ECLI:EU:C:2018:634, Paragraph 3

EU:C:2014:76, paragraph 21, and of 14 June 2017, Stichting Brein, C-610/15, EU:C:2017:456, paragraph 27 and the case-law cited). »<sup>393</sup>

Therefore, the act of communication needs to be interpreted in the broadest form possible and refers to an “indeterminate number of potential recipients”.<sup>394</sup>

However, when a work is uploaded to an online storage, an URL is created and communicated to the subject that uploaded such a work. The URL created consists of a long series of letters and numbers (about 80 characters)<sup>395</sup>. Therefore, as the link is not communicated to a wide range of people but generally only to the subject that started the minting process, it «is rather unlikely that a Court within the EU or a European Court would classify this technical procedure as a “making available to the public».<sup>396</sup> This can also be affirmed considering the *GS Media case*<sup>397</sup>, where on the one hand, the CJEU indeed considered the possibility that the phenomenon of hyperlinking could infringe on Article 3. On the other hand, because the creation of an URL does not reach a wide public, the Off-chain creation of an NFT does not seem to infringe Article 3 of the *Information Society Directive*. Indeed, «the accessibility of the link is limited to the buyer of the NFT and thereby does not reach an indeterminate number of potential viewers and, moreover, does not imply a fairly large number of people.»<sup>398</sup>

The second step of the Off-chain creation of an NFT consists in generating the metadata. In this phase, a link is created that points where the metadata is stored -in the so-called “JSON format”. Such a link includes various information such as «the name of the author, the name of the asset, a short description and the source (the URL to the work). »<sup>399</sup> The metadata is not easily accessible to third parties as it is written in code and would require various intermediary steps to be read. As in this second phase, the metadata is not reproduced but only linked, and such a link is also not easily accessible to third parties, this step should not be considered an act of reproduction of the work (as stated by Article 2 of the *Information Society Directive*). Moreover, the creation of the metadata does not infringe Article 3 of the *Information Society Directive* as it can't be considered an act of communication to the public.

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<sup>393</sup> Ibid 1, Paragraph 22

<sup>394</sup> Ibid 2

<sup>395</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>396</sup> Ibid 1

<sup>397</sup> *GS Media BV v Sanoma Media Netherlands BV*, *Playboy Enterprises International Inc.*, *Britt Geertruida Dekker*, C-160/15, ECLI:EU:C:2016:644.

<sup>398</sup> Garbers-von Boehm, Haag, “Intellectual Property Rights and Distributed Ledger Technology”, European Parliament, (October 2022), < <http://www.europarl.europa.eu/supporting-analyses>>

<sup>399</sup> Ibid 1



Indeed, as in the first step of the minting process analyzed previously, the metadata here is uploaded in an online storage and consists of an URL of more than 80 characters.<sup>400</sup> In addition, the fact that the metadata is written in the JSON format makes it impossible to read it without a proper translation into readable content for a web browser. As we have seen before, in order to violate Article 3, the communication to the public needs to reach a wide number of people. As in this case, neither the URL -as it consists of a long series of numbers and letters- nor the JSON format -because of its complexity- allows this communication to be reached, we can conclude that the creation of the metadata does not infringe Article 3. We can therefore affirm that from a copyright perspective, the creation of the metadata does not seem a relevant act.

The last step in the Off-chain is the creation of the token on the blockchain. In this step, the metadata, and contract address are both stamped in the token, which is then deployed in the blockchain.<sup>401</sup> Also in this case -as we have seen in the second step- there is no act of reproduction to the public of the relevant metadata, and therefore the third step does not constitute a violation of Article 2 of the *Information Society Directive*. Moreover, also Article 3 of such a Directive should not be considered infringed « as simply deploying a token on a blockchain without publishing it on an NFT marketplace does not make it accessible for the public, unless the creator of such token uses another way of publishing it. »<sup>402</sup>

We can conclude that in the Off-chain process of creating an NFT, only the first step -the creation of the source- can be considered relevant for copyright law. Indeed, in the case where the subject that creates the source is not the rightsholder of the source used, such a use can lead to possible infringements.

Finally, in the On-Chain minting process, the metadata and the file that contains the work are directly stored in the blockchain. In this case, such storage can't be considered an act of communication to the public for the same purposes explained above. However, it can infringe Article 2 of the *Information Society Directive*<sup>403</sup> if the work is copied in the blockchain without the consent of his author.

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<sup>400</sup> Ibid 2

<sup>401</sup> Ibid 3

<sup>402</sup> Ibid 4

<sup>403</sup> The reproduction right

## **Section 7: Issues raised for NFTs related to artworks, the music world, and the sports industry: an analysis of the legal implications related to NFTs in the Metaverse**

### 7.1 The role of NFTs in the Metaverse

### 7.2 Issues raised for NFTs related to artworks, the music world, and the sports industry

In the first part of our thesis, we have highlighted the principles of copyright law that can be relevant when dealing with NFTs in the Metaverse. We have then analyzed three types of NFTs: art NFTs, music NFTs, and sports NFTs. For what concerns art NFTs (Section 3), we have studied the phenomenon of crypto art, the case of GAM and Rijksmuseum, and how copyright law can specifically be applied to NFTs in the art world. We have then analyzed NFTs related to the music world (Section 4) by tackling the use of NFTs in such a world, the case of Kings of Leon and the album they released as an NFT, and concluded by determining how copyright law can be applied to NFTs in the music world. Finally, we have examined NFTs related to the sports industry (Section 5) through the study of digital trade in sports, the case of NBA Top Shot, and by determining how copyright law can be applied to NFTs in the sports industry. Therefore, such an analysis allowed us to highlight several issues currently present in the metaverse for every type of these NFTs. In this section, we will tackle those issues and highlight their legal implications with intellectual property rights in the Metaverse.

## 7.1 The role of NFTs in the Metaverse

As seen in our previous analysis<sup>404</sup>, NFTs play a central role within the metaverse. The structure of NFTs allows the transactions carried out in the metaverse to be driven and to prove the ownership of such transactions.<sup>405</sup> Indeed, «these tokens provide indisputable proof of ownership that is more secure than any land deed.»<sup>406</sup> This is because NFTs are created with the support of blockchain technology, which brings into the market the authenticity verification for any digital file.<sup>407</sup> The blockchain structure offers various guarantees to potential buyers, such as the name of the current NFT owner and the one of the past owner. In order to have access to such information, the current NFT owner must be registered on an NFT marketplace, and his account must be certified by the platform. However, having a record of the history of an NFT does not prevent the phenomenon of minting an NFT without the authorization of the copyright owner to occur.

As highlighted in section 2, the main characteristics of the blockchain refer to «three distinct situations: the transactions recorded in the blockchain, other contents recorded in the blockchain, and the code of the blockchain itself.»<sup>408</sup> Therefore, when affirming that the blockchain can provide proof of authenticity for NFTs, we rely on the fact that once an NFT is recorded on the blockchain, it becomes stable and can't be changed or modified. Such a characteristic can notably benefit the metaverse as it would offer to possibility to make every commercial transaction secure and tamper-proof. Indeed, as in the metaverse, commercial transactions are expected to be carried out through the use of cryptocurrencies, NFTs would be the tool that provides secure proof of ownership for those transactions. Indeed, «For metaverse property rights, you simply cannot fake it because of the way smart contracts are defined, and the NFTs programmed (...) You know you own an asset and can demonstrate ownership fully. Based on the terms and conditions of that virtual environment, you can then assert ownership rights. »<sup>409</sup>

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<sup>404</sup> See Section 1.1

<sup>405</sup> NFTs: the metaverse economy”, Financial Times, < <https://www.ft.com/partnercontent/crypto-com/nfts-the-metaverse-economy.html>>

<sup>406</sup> Ibid 1

<sup>407</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren't the droids you're looking for”, European Intellectual Property Law Review, (January 2022), 14

<sup>408</sup> Eliza Mik, “Blockchains: A Technology for Decentralized Marketplaces”, in Impact of Technology on International Contract Law: Smart Contracts and Blockchain Technologies, Forthcoming, (10 September 2018), 171

<sup>409</sup> NFTs: the metaverse economy”, Financial Times, < <https://www.ft.com/partnercontent/crypto-com/nfts-the-metaverse-economy.html>>

In addition, as the functioning of NFTs relies on the use of the blockchain, every transaction cannot be deleted or altered.<sup>410</sup> Once seen the benefits that NFTs could bring to the metaverse, it is worth tackling what legal issues the use of NFTs could raise in the metaverse.

At first, we have seen that NFTs are suitable to provide an «ownership of digital assets in the metaverse.»<sup>411</sup> However, the regulatory framework regarding NFTs is still unsure and under development, so it is still tricky to determine to what extent NFTs can create a right of ownership. The legal problems surrounding such supposed ownership right granted by NFTs are related to two main technological features of such tokens: decentralization and interoperability.<sup>412</sup> According to such features, NFTs should provide «indisputable proof of ownership, which can be used across various metaverse apps, environments and games.»<sup>413</sup> Indeed, the decentralization of every transaction could offer the possibility to sell and buy every virtual item directly on the blockchain without needing third-party assistance. However, despite such intrinsic characteristics of NFTs, it is at this state very complicated to determine what is the actual legal status of NFTs owners. This is because no specific legislation tackles NFTs and regulates them, and property law does not regulate the ownership of digital assets in the metaverse.<sup>414</sup> Therefore, what is called “ownership” in the physical world does not seem to apply to the concept of “ownership” in the metaverse. Moreover, NFTs also raise serious consideration about the possibility that they can be misused.<sup>415</sup> Indeed, as we have seen in our previous analysis, it is very frequent for NFTs to be minted without the consent of the copyright owner of the original work. As of this state, there is no current regulatory framework that regulates the creation and exchange of NFTs, and therefore any possible violation of copyrights in the minting process seems difficult to be punished.

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<sup>410</sup> Madiega, Car, Niestadt, Van de Pol, “Metaverse Opportunities, risks and policy implications”, European Parliamentary Research Service, (June 2022) <

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

<sup>411</sup> Ibid 1

<sup>412</sup> Joao Marinetti, “Can you truly own anything in the metaverse? A law professor explains how blockchains and NFTs don’t protect virtual property”, The Conversation, (21 April 2022), <<https://theconversation.com/can-you-truly-own-anything-in-the-metaverse-a-law-professor-explains-how-blockchains-and-nfts-dont-protect-virtual-property-179067>>

<sup>413</sup> Ibid 1

<sup>414</sup> João Marinotti, “Possessing Intangibles”, Maurer School of Law: Indiana University. (2022), <<https://www.repository.law.indiana.edu/facpub/3030/>>

<sup>415</sup> Madiega, Car, Niestadt, Van de Pol, “Metaverse Opportunities, risks and policy implications”, European Parliamentary Research Service, (June 2022) <

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

As specified by Guadamauz<sup>416</sup>, to violate copyright, the minting process should meet three requirements:

- the infringer must have taken advantage of one of the exclusive rights expressly granted to the author without his authorization
- there should be a connection between the NFT and the author's unique work of art, meaning that the NFT has to be created "directly from the original"<sup>417</sup> work
- the work represented by the NFT or a part of such work should be copied from the original artist's work

However, also if these requirements are met, from a legal perspective, it is still to argue if the nature of an NFT can be suitable to be qualified as a potential copyright infringement.

Finally, the use of NFTs in the metaverse raises consideration for what concerns their interoperability and portability<sup>418</sup>- meaning that every user should be able to carry his virtual asset from one virtual world to another one<sup>419</sup> Indeed, at the current state, there is no portability or either interoperability between the various metaverse environments which means that «each platform needs to link NFTs to its own proprietary digital assets. »<sup>420</sup> The result of such a situation is that every platform needs to connect the NFT with the underlying digital owner, and if an ownership right exists in one virtual world, it doesn't mean that such property can't be translated to another virtual world.

Moreover, when joining a metaverse platform and purchasing an NFT, the ownership rights are regulated by the platform's T&C. This means that every platform that sells NFTs has its own T&C, and so these documents are controlled by one single centralized company<sup>421</sup> that settled out the legal rights associated with virtual ownership.<sup>422</sup> Ownership rights vary from one T&C to another, and there is still no unity and a lack of clarity for what concerns ownership rights in the metaverse.

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<sup>416</sup> Andres Guadamuz, "Non-fungible tokens (NFTs) and copyright", WIPO Magazine, (December 2021), 5

<sup>417</sup> Ibid 1, 6

<sup>418</sup> Madiaga, Car, Niestadt, Van de Pol, "Metaverse Opportunities, risks and policy implications", European Parliamentary Research Service, (June 2022) <

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

<sup>419</sup> Joao Marinetti, "Can you truly own anything in the metaverse? A law professor explains how blockchains and NFTs don't protect virtual property", The Conversation, (21 April 2022), <<https://theconversation.com/can-you-truly-own-anything-in-the-metaverse-a-law-professor-explains-how-blockchains-and-nfts-dont-protect-virtual-property-179067>>

<sup>420</sup> Madiaga, Car, Niestadt, Van de Pol, "Metaverse Opportunities, risks and policy implications", European Parliamentary Research Service, (June 2022) <

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)>

<sup>421</sup> Joao Marinetti, "Can you truly own anything in the metaverse? A law professor explains how blockchains and NFTs don't protect virtual property", The Conversation, (21 April 2022), <<https://theconversation.com/can-you-truly-own-anything-in-the-metaverse-a-law-professor-explains-how-blockchains-and-nfts-dont-protect-virtual-property-179067>>

<sup>422</sup> Ibid 1

## 7.2 Issues raised for NFTs related to artworks, the music world, and the sports industry

In the first chapter of our thesis, we analyzed three specific types of NFTs linked to the art, music, and sports industry. Such analysis has allowed us to highlight several concerns that regard such types of NFTs. From a legal perspective, these issues are mainly linked to determining how copyright law can be applied to these NFTs. In this section, we will analyze in detail the issues raised for every type of NFT while focusing on their legal status.

### A) Issues raised for NFTs related to artworks

In the third section, the analysis conducted has allowed us to determine the importance that the phenomenon of crypto art has gained in recent years. Indeed, from the sale of “Everydays: the First 5000 days” by the digital artist Beeple, operated in 2017 by Christie's, for \$ 69.3 million<sup>423</sup>, crypto art has gained considerable importance within the art world. Such a type of art-making is particularly innovative as it uses blockchain technology that allows the selling and purchasing of digital works. Crypto art needs to be distinguished from digital art, which relies on artificial intelligence (AI) to create artistic works.<sup>424</sup> Such a system can be used to create a wide range of creative works, such as music, books, and paintings.<sup>425</sup> However, the EU copyright law does not tackle the possibility of a work being created through the use of AI. Indeed, according to the current European legal framework, the copyright can protect a work if two conditions are fulfilled:

- « (i) the creation must be a “work”, as defined in the case-law of the Court of Justice of the European Union (“CJEU”)
- (ii) one must be the original author of the mentioned work or have obtained the copyright by transfer». <sup>426</sup>

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<sup>423</sup> Beeple’s opus, Christie’s, available at: <https://www.christies.com/features/Monumental-collage-by-Beeple-is-first-purely-digital-artwork-NFT-to-come-to-auction-11510-7.aspx>, accessed 22 December 2021

<sup>424</sup> “NFTs and the Art Industry: A Cryptoart Revolution”, Cryptopedia, (January 18, 2022), <<https://www.gemini.com/cryptopedia/blockchain-fine-art-nft-marketplace>>, accessed 18 May 2022

<sup>425</sup> De Grauwe, Gryspeerdt, “Artificial Intelligence (AI): The qualification of AI creations as “works” under EU copyright law”, Gevers, (22 November 2022), <<https://www.gevers.eu/blog/artificial-intelligence/artificial-intelligence-ai-the-qualification-of-ai-creations-as-works-under-eu-copyright-law/>>

<sup>426</sup> Ibid 1

When dealing with the creation of a work with the support of AI, it is relevant to make some clarifications. Indeed, we should distinguish a work created with an “AI-assisted output” from an “AI-generated output.”<sup>427</sup> According to the World Intellectual Property Organization (WIPO)<sup>428</sup>, the European Parliament<sup>429</sup> and the European Commission<sup>430</sup>:

- «AI-generated output refers to the generation of an output by AI without any human intervention. In this case, AI can change its behavior during operations to respond to unanticipated information or events. According to the European Commission, there are no examples of AI-generated works at this time .
- AI-assisted output is generated with material human intervention and/or direction. AI-assisted output can be defined as outputs, applications or productions generated by or with the assistance of AI systems, tools or techniques. »<sup>431</sup>

Therefore, although such a distinction is relevant in order to determine what could be the impact of AI in the creation of works, according to the European commissions, AI-generated output are still not carried out. Therefore, we should wonder if AI-assisted output can be protected by copyright.

According to the European Commission, AI can be defined as «systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals.»<sup>432</sup> Several NFTs have been created with the support of AI, such as CryptoPunks and Bored Ape Yacht Club.<sup>433</sup> Therefore, from a legal perspective, what is central to determine is what is the role of human beings while interacting with AI in a creative process.<sup>434</sup>

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<sup>427</sup> Ibid 2

<sup>428</sup> “WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence (AI)”, WIPO (21 May 2020) < [https://www.wipo.int/edocs/mdocs/mdocs/en/wipo\\_ip\\_ai\\_2\\_ge\\_20/wipo\\_ip\\_ai\\_2\\_ge\\_20\\_1\\_rev.pdf](https://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ip_ai_2_ge_20/wipo_ip_ai_2_ge_20_1_rev.pdf)>

<sup>429</sup> European Parliament Resolution of 20 October 2020 on Intellectual property rights for the development of artificial intelligence technologies, 2020/2015(INI).

<sup>430</sup> “Trends and Developments in Artificial Intelligence – Challenges to the Intellectual Property Rights Framework”, European Commission, (September 2020), < <https://op.europa.eu/en/publication-detail/-/publication/394345a1-2ecf-11eb-b27b-01aa75ed71a1/language-en>>

<sup>431</sup> De Grauwe, Gryspeerdt, “Artificial Intelligence (AI): The qualification of AI creations as “works” under EU copyright law”, Gevers, (22 November 2022), <<https://www.gevers.eu/blog/artificial-intelligence/artificial-intelligence-ai-the-qualification-of-ai-creations-as-works-under-eu-copyright-law/>>

<sup>432</sup> Artificial Intelligence for Europe, COM(2018) 237 final, 1

<sup>433</sup> See Section 3

<sup>434</sup> Hugenholtz, Quintais , “Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?”, International Review of Intellectual Property and Competition Law, (7 September 2021), < <https://link.springer.com/article/10.1007/s40319-021-01115-0>>

According to Bodo et al.,<sup>435</sup> if an NFT is created through the use of AI and the algorithmic production of the final output result in lacking a relevant human contribution, such lack may signify that no copyright protection can be applied to the work generated as it does not meet the originality standards. Indeed, «in the European Union, the standard of originality is described as the “author’s own intellectual creation” which is further interpreted as involving “creative freedom”, “personal touch”, or “free and creative choices”.»<sup>436</sup> Moreover, according to the CJEU’s case law, the concept of originality «completely relies on the notion of a human being engaging in creative acts – reflecting “creative choice”.»<sup>437</sup> The current state of the European legal framework allows us to determine that in order to be protected by copyright, a work generated through the use of AI needs to have a relevant human contribution in the creation process.

## B) Issues raised for NFTs related to the music world

As we have seen in Section 4, NFTs related to the music world are less common than the ones related to artworks but are rapidly growing in importance in the asset world. Indeed, through the analysis of the use of NFTs in the music industry and the case of Kings of Leon and Reasonable Doubt, we have determined how copyright law can be applied to NFTs in the music world.

When analyzing such a type of NFTs, it is relevant to highlight that their use can benefit the music industry in many ways. Indeed, music NFTs rely on blockchain technology and can allow the music industry to redefine itself while offering fans a new way of buying and selling music. The main issue linked to the music industry is that its functioning can be defined as outmoded<sup>438</sup>, and the use of blockchain technology could help such an industry to redefine itself. Indeed, such technology could particularly benefit artists as it would allow them to increase their royal payouts, improve the

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<sup>435</sup> Bodo, Giannopoulou, Mezei, Quintais, “ The Rise of NFTS: These aren’t the droids you’re looking for”, *European Intellectual Property Law Review*, (January 2022), 10

<sup>436</sup> Xiao Wang, “AI Output: A Human Condition that Should Not be Protected Now, or Maybe Ever”, *Chicago-Kent Journal of Intellectual Property*, (7 December 2021), < <https://scholarship.kentlaw.iit.edu/ckjip/vol20/iss1/7/>>

<sup>437</sup> Hugenholtz, Quintais, “Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?”, *International Review of Intellectual Property and Competition Law*, (7 September 2021), < <https://link.springer.com/article/10.1007/s40319-021-01115-0>>

<sup>438</sup> Rauman, Bradley, "The Budding Disruption of Blockchain Technology Upon the Current Structure of the Music Industry" (2021). Senior Theses, 4



industry's transparency, settle out an automatic payment system for royalties, and remove unwanted intermediaries.<sup>439</sup>

Moreover, the transparency of the blockchain and the fact that all the transactions carried out through such a system are traceable by every user could allow artists to access a wide number of sensible data. Indeed, such data are normally received and managed by record labels, and generally, artists do not know the outcome of their works.<sup>440</sup> By accessing such sensitive data, an artist can track the evolution of its music -the number of times it is played, where it is played, and by whom- and behave in consequence.

The benefits illustrated above are the reason why music NFTs have become popular in recent years.<sup>441</sup> However, music NFTs also raise several considerations concerning copyright protection. In section 4.5, we have seen that the attempt to create a Global Repertoire Database (GRD)- which would have allowed the managing of music-related copyright within the EU- has failed. Indeed, although the benefits such a repertoire could have brought are indisputable -transparency, tracking of payment and royalties, administrative cost reduction<sup>442</sup>- the concerns about who would have been entitled to manage the dataset caused its failure. We should also consider that the Global Repertoire Database would have collected relevant sensitive data from various sources, and the management of such data would also have been complicated.<sup>443</sup>

Once the project to build a Global Repertoire Database failed, the music industry found in blockchain technology and NFTs a valid alternative for the building of a database and collection of data.<sup>444</sup> Indeed, «the secure nature of blockchain technology bridges the gap between content creators and consumers by cutting out intermediaries, allowing for quick and seamless transactions and ensuring the transparency of all music-related information.»<sup>445</sup> The use of the blockchain could also allow the foundation of a completely new music ecosystem<sup>446</sup>, where music creators and fans could

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<sup>439</sup> Arya Taghdiri, "How Blockchain Technology Can Revolutionize the Music Industry", *Journal of Sports & Entertainment Law*, Harvard Law School, (2019), 174

<sup>440</sup> Ibid 1

<sup>441</sup> See Graphics in Section 4.1

<sup>442</sup> Klementina Milosic "GRD's Failure", *Music Business Journal*, (2 August 2015), < <http://www.thembj.org/2015/08/grds-failure/> >, accessed 2 June 2022

<sup>443</sup> Kapsoulis, Nikolaos, Psychas, Alexandros, Palaiokrassas, Georgios, Marinakis, Achilleas, Litke, Antonios, Varvarigou, Theodora, Bouchlis, Charalampos, Raouzaïou, Amaryllis, Calvo, Goncal, and Jordi Escudero Subirana, "Consortium Blockchain Smart Contracts for Musical Rights Governance in a Collective Management Organizations (CMOs) Use Case", *Future Internet* 12, no. 8 (11 August 2020), 12

<sup>444</sup> Imogen Heap, "Blockchain Could Help Musicians Make Money Again", *Harvard Business Review*, 5 June 2017, < <https://hbr.org/2017/06/blockchain-could-help-musicians-make-money-again> >, accessed 2 June 2022

<sup>445</sup> Arya Taghdiri, "How Blockchain Technology Can Revolutionize the Music Industry", *Journal of Sports & Entertainment Law*, Harvard Law School, (2019), 179

<sup>446</sup> Ibid 1

considerably strengthen their relationships over time. Indeed, the changes such technology could offer rely on three main points:<sup>447</sup>

- The use of smart contracts would completely reshape the relationship between intermediaries and content creators, allowing content creators to no longer rely on such intermediaries and directly receive their royalties payments
- Content creators would be able to have access to valuable information regarding their musical works
- Finally, the use of blockchain technology could allow the storage -within the blockchain- of a wide number of data that would benefit both content creators and fans.

Although the benefits blockchain technology could bring to the music industry are evident, music NFTs are still not the most famous ones. This could be explained by the fact that there is still much confusion about what type of rights music NFTs can grant their owners. Indeed, as we have seen in section 4, music NFTs can give their owners various kinds of benefits. For instance, in the selling of King of Leon, the band created three types of NFTs that offered fans and potential buyers different rewards: a special album package, front-row seats for life for Kings of Leon concerts, and some limited audiovisual art.<sup>448</sup>

The case of Kings of Leon allowed us to determine what types of rights music NFTs can grant their owner and to determine that often they do not include the transfer of the copyright of the original work of art that is minted as an NFT. However, the analysis of the Reasonable Doubt case allowed us to highlight what could be the potential issues music NFTs can raise. Indeed, the case refers to the selling of an NFT linked to the album of Jay-Z's *Reasonable Doubt*. As previously analyzed<sup>449</sup>, one of the copyright owners -Dash- decided to mint and sell an NFT that would have included the transfer of the album's copyright and the possibility to earn every future revenue generated by such an album. However, such selling was not authorized by the other copyright holders of *Reasonable Doubt* - the music label RAF, Inc, and Jay-Z.

The case of Reasonable Doubts highlights several concerns regarding copyright law<sup>450</sup>, which refers to the possibility of minting an NFT without the authorization of the copyright owner of the original work of art. Therefore, when dealing with music NFTs, fans should always be aware that their purchase could be based on an NFT infringing the copyright of the underlying work of art.

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<sup>447</sup> Ibid 2

<sup>448</sup> Samantha Hissong, "Kings of Leon Will Be the First Band to Release an Album as an NFT", Rolling Stone, (3 March 2021), < <https://www.rollingstone.com/pro/news/kings-of-leon-when-you-see-yourself-album-nft-crypto-1135192/> > accessed 27 April 2022

<sup>449</sup> See Section 4.3

<sup>450</sup> Explained in section 4.3

We have seen that music NFTs can solve the issues the music industry is currently facing, but in order to offer such a possibility, they need to gain significant importance among the general public and generate a relevant number of transactions. Otherwise, its capabilities to solve the music industry issues would not be enough for his implementation.

### C) Issues raised for NFTs related to the sports industry

In section 5, we have based our analysis on determining what could be the future of digital trade in sports. We have then studied the case of NBA Top Shot and determined how copyright law can be applied to NFTs in the sports industry. What characterizes sports NFTs is that they can be related to various products such as clips, pictures, collectibles, and sports tickets. Indeed, as highlighted in the analysis of NBA Top Shot, sports NFTs allow buyers to purchase not only pictures but also video clips of their favorite sportsmen. For what concerns owners' rights, sports NFTs mainly rely on what the T&C of every platform states. However, to determine the issues raised by NFTs related to the sports industry, it is worth defining the role of intermediary service providers that operate within the NFT market. The role of such intermediaries is crucial either in the minting process, in determining the NFT marketplace rules, or in defining -in their T&C- what technical and legal regime for NFTs and the content the assets refer to.

According to Guadamuz et al.,<sup>451</sup> three types of platforms can interact with NFTs:

- Platforms that operate as open marketplaces
- Platforms that work as collection-based marketplaces
- Platforms that function as curated marketplaces

The structure of the platforms that belong to the first category is shaped in a way that allows them to either mint or trade NFTs (created on another platform). Platforms such as OpenSea, Foundation, or Rarible<sup>452</sup> belong to this category. The peculiar features of such platforms are the fact that they allow

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<sup>451</sup> Bodo, Giannopoulou, Mezei, Quintais, “The Rise of NFTS: These aren’t the droids your’re looking for”, European Intellectual Property Law Review, (January 2022), 10

<sup>452</sup> Ibid 1

an “open and streamlined mining process”<sup>453</sup>, as well as the listing of NFTs minted elsewhere. Such characteristics allow the displaying on such platforms of various and considerable number of NFTs. Moreover, such platforms also impose few restrictions for NFTs minted on other platforms.

The second category - platforms that work as collection-based marketplaces- refers to platforms that «create, curate, mint, and promote specific, unique NFT-based digital collectibles.»<sup>454</sup> NBA Top Shot, CryptoPunks, and CryptoCat operate according to such a functioning. Indeed, such types of NFTs are offered on dedicated platforms that have the purpose of creating a collection-based marketplace for potential buyers. The particularity of this second type of platform is that they perform a rigorous *a priori* control for what concerns their design decisions, the determinations of the conditions for third-party to enter their marketplace, as well as the rules that regulate the rights and the behavior that artists, buyers, sellers, and rightsholders should have.<sup>455</sup> Moreover, the NFTs created on such platforms can also be traded in platforms that operate as open marketplaces.

Finally, the third category refers to platforms that function as curated marketplaces. Such a category relies on the fact that its platforms have settled out a rigorous control on the entities that create and trade NFTs while using their services. The most famous platforms that belong to such a category are SuperRare, Nifty Gateway, and Foundation.<sup>456</sup> The platforms that operate according to such standards differs from the one that belongs to the second category as they do not claim exclusive privileges linked to creation and the selling of NFTs. Indeed, what characterizes curated marketplace platforms’ is the fact that they exercise direct control over the entities that mint or post and directly sell NFTs. For instance, SuperRare has settled out an *ex-ante* control mechanism that verifies the type of content that can be sold on the platform. Moreover, its T&C<sup>457</sup> laid the foundations to create a “dispute resolution mechanism” in order to facilitate the *ex-post* enforcement of copyright. Indeed, according to SuperRare T&C, «The Company reserves the absolute right to remove, rescind, modify, suppress, or alter any aspects of the Services in its sole discretion, including but not limited to removing content associated with NFTs that are: (i) involved in an actual or suspected violation of these Terms or the law; (ii) that were stolen or otherwise unlawfully obtained; or (iii) that were involved in a verified, unlawful exploit of a User’s wallet. The Company will make best efforts to, but assumes no obligation to, provide notice of content removal to affected Users (i.e., NFT Creators, NFT Owners). The

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<sup>453</sup> Ibid 2

<sup>454</sup> Ibid 3

<sup>455</sup> Ibid 4

<sup>456</sup> Ibid 5

<sup>457</sup> Terms and Conditions, SuperRare, < <https://campaigns.superrare.com/terms>>

Company assumes no obligation or duty to remove or modify content from the Services for any reason except as required by law.»<sup>458</sup>

Regarding NFTs related to the sports industry, they mainly belong to the second category as they are mainly used as collectibles by sports fans. Moreover, as highlighted in our previous analysis, sports NFTs are mainly regulated through what the platform states in its T&C. Indeed, as «the technical features of NFTs offer little structural guidance for maneuvering copyright specificities and pose no obligations to include copyright relevant metadata »<sup>459</sup>, platforms set and enforce copyright throughout their T&Cs.

The analysis of two major NFTs sports marketplaces -NBA Top Shot and Candy- allows us to determine that, in general, NFTs owners not only do not own any intellectual rights on such NFTs, but they also cannot use the art displayed on such NFTs for commercial purposes, modify such art or even try to acquire additional intellectual property rights related to the NFTs they purchased.

Indeed, what is crucial to affirm while dealing with sports NFTs sold on these platforms is that buyers do not fall within the scope of the *Information Society Directive* as they are not considered to be the owners of the copyright associated with the original work of art to which the NFTs refer.

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<sup>458</sup> Ibid 1

<sup>459</sup> Bodo, Giannopoulou, Mezei, Quintais, “The Rise of NFTS: These aren’t the droids your’re looking for”, *European Intellectual Property Law Review*, (January 2022), 10

## **CHAPTER 3: CONCLUSIONS**

### **Section 8: General considerations and possible solutions for NFTs and Intellectual Property Rights in the Metaverse**

The thesis aimed to determine what intellectual property rights could apply to NFTs in the metaverse. The purpose of such an analysis was driven by the fact that such subjects are increasing in popularity in our society, but they are not adequately treated and considered from a legal point of view.

In order to address such considerations, we have started our analysis by providing an introduction to how NFTs work and interact with the metaverse. We first attempted to categorize NFTs while highlighting the functioning of blockchain and smart contracts -two core elements that deeply characterize NFTs. Such analysis allowed us to define and explain how the minting process is carried out for NFTs. Such a process -which refers to the creation of NFTs- is made possible through the use of smart contracts and blockchain technology.

Understanding the various steps of the minting process is extremely important when dealing with copyright law and NFTs. This is because the main issue regarding NFTs is how they interact with copyright law in all of the steps necessary for their creation. Due to their novelty, there is still a lack of regulation for copyright law specifically related to non-fungible tokens. Indeed, such a branch of the law has been ignored for a long time when dealing with NFTs. Nonetheless, copyright law applies even in the decentralized world where NFTs belong. Copyright law covers a variety of works, including illustrations, paintings, photographs, sound recordings, movies, and computer programs... Although NFTs aren't included in such a list, they can be considered a new form of expression that needs to comply with copyright law. However, the structure itself of NFT often makes it tricky and hard to comply with such rules.

We have then continued our analysis by focusing on the core principles of copyright law and how they could be reshaped to address NFTs' specific characteristics, as the novelty of NFTs makes it often tricky for the legislator to develop appropriate legislation that would tackle all of their features and continuous evolutions.

Indeed, in the second section, we have highlighted all of the relevant pieces of legislation that could be applied to NFTs. The aim was to show that there are indeed specific rules that apply to the functioning of platforms, to the rights of buyers and sellers, and to possible platforms' liability issues for allowing on their servers some illegal content. However, concerns regarding the regulation of NFTs arise from the fact that the principles of copyright law do not tackle their functioning. Mainly NFTs are regulated by platform T&Cs that can differ from one platform to another. Therefore, buyers do not have any status or legal rights that are affirmed by uniform legislation. In order to address such concerns, in the second section, we have conducted an examination of what are the core principles of intellectual property law and what are the fundamentals of copyright law. This was with the aim of tackling the principles of intellectual property law and determining how they interact with the functioning of NFTs. We have seen that economics and moral rights are fundamental to copyright law and ensure the author/copyright owner some legal basis for referring to in case some violations of his work would occur. In addition, while analyzing the three core principles linked to copyright law- the creation of the work, the exploitation of the copyright, and the enforcement of the copyright- we have endeavored to apply them to the functioning of NFTs. To do so, we have defined the intrinsic principles affirmed by copyright law - exploitation rights, exhaustion, and enforcement of copyright- while attempting to apply them to the structure of NFTs. Moreover, we have seen that there are three interdependent rationales for the existence of copyright law which are related to natural law, economic incentives, and social requirements. Therefore, at first, copyright exists to give a person ownership of a work that comes from the fruit of their mind. Secondly, copyright exists for economic purposes, as it allows to reward authors with appropriate compensation for the work they created. Lastly, the reward should not be considered only for the author's single interest but also as a form of public interest.

Once seen such principles, we stressed that the difficulty in applying such rules of copyright law is that NFTs are defined as non-fungible tokens and that usually, EU main legislations only refer to fungible objects. Therefore, as our legal framework is full of relevant rules that could be applied to NFTs, those rules should be extended to the regulation of NFTs. Indeed, as such tokens are becoming increasingly prominent in the art, music, and sports trading world, it is no longer acceptable for buyers and sellers, as well as artists and platforms, that the rights related to such selling are unclear and that the whole legal aspect of NFTs is technically non-existent. Moreover, to solve a large part of these issues, platforms should be granted more powers and responsibilities to provide users with clear T&Cs on what they are facing when starting to purchase or sell an item.

The European legislator should closely observe how the US legislation is tackling these issues – for example, by establishing a clear process for the notice and takedown procedure - and shape the European legal framework through this process. To determine how NFTs have put traditional copyright law principles into question, we have analyzed three types of NFTs: those related to artworks, those to the music world, and those related to the sports industry.

In the third section, we have focused our analysis on NFTs related to artworks while starting with the examination of the phenomenon of crypto art. In such a section, we have also discussed the recent case of Gam and Rijksmuseum in which the tokenization of Rembrandt's painting occurred. The case of GAM and Rijksmuseum allowed us to highlight how the principle of copyfraud should be interpreted when confronted with NFTs. Moreover, the analysis of the phenomenon of hyperlinking allowed us to discuss the principle of communication to the “new public” and understand that, when dealing with the digital environment, hyperlinks can constitute an infringement only if they are considered an act of communication that is addressed to the public.

In the fourth section, we examined the aspects of copyright law related to the music world. As we have seen, such an industry could be strengthened and solve its issues with the introduction of NFTs, as they could bring some significant benefits to the artists. In addition, the analysis of the Reasonable Doubt case, the first legal action involving copyright infringement, allowed us to demonstrate that although NFTs are non-fungible tokens and technically not considered by the law, they can raise severe considerations related to the breach of copyright law.



In the fifth section, we have focused our analysis on NFTs related to the sports industry. We have seen that those NFTs are rapidly growing as they offer buyers a new possibility to trade but also game and receive some rewards based on their NFTs. Moreover, the analysis of NBA Top Shot allowed us to determine what is, in practice, the functioning of sports NFTs marketplaces and to determine the importance that platforms T&Cs have for such a category of NFTs.

Finally, in the second chapter, we have analyzed the issues linked to NFTs (Section 6). To tackle such concerns, we have first explained how an NFT is created while assessing the copyright issues that can arise during such a process. To do so, we have deeply examined the phenomenon of Off-chain and Off-chain creation of NFTs and how these could lead to possible infringements. Moreover, we have highlighted how such a process could impact the use of NFTs within the metaverse.

Finally, in section 8, we have examined the role of NFTs in the metaverse and determined that its intrinsic characteristics to provide proof of ownership can notably benefit the function of the metaverse and the transfer of assets. We have then concluded our analysis by specifically tackling the issues that artwork, music, and sports NFTs present.

As demonstrated in the analysis GAM and Rijksmuseum, Reasonable Doubt, and NBA Top Shot cases, the use of blockchain technology can bring tremendous benefits to users. It can improve artists' works by helping them communicate their creations to a bigger audience, providing them with some relevant information about their works' perception, and ensuring them greater financial stability.

However, as long as the European legislator avoids tackling the consideration raised about NFTs and the possible breach they could represent for copyright law, the use of blockchain technology will never be taken seriously. To fully enjoy such technology's benefits, we need the law to seriously consider NFTs as a revolution that intends to stay and reshape our society.

We have seen that within the metaverse, NFTs play a central role. Indeed, the way they are structured and shaped makes them the perfect tool to support financial transactions as they provide proof of ownership for such transactions. However, how at this state, there is still no specific regulation that tackles such a use, third parties that interact and operate in the metaverse still need to rely on what the platform's T&Cs state.

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