

NFTs: AN OVERVIEW OF LAW AND REGULATION IN 2022 AND BEYOND

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INTRODUCTION

Just three years ago, very few participants in the art market were familiar with the concept of an NFT or non-fungible token. Since then, however, this new phenomenon has taken the market by storm to such an extent that there are unlikely to be many artists, dealers, gallerists or other art traders today who do not have at least a passing understanding of NFTs and how they operate. Although the first NFT is said to have been created in 2014,¹ it was not until the record-breaking sale in March 2021 of the work by digital artist Mike Winkelmann (better known as Beeple) entitled *Everydays: the First 5000 Days* for \$69 million that NFTs came to the attention of the art market and the wider public. NFTs have rarely missed a week in the headlines since. Whilst estimates vary quite widely² and volatility abounds,³ the NFT market is considered to be worth billions of dollars.

NFTs have raised questions for almost every branch of the law: from copyright to contracts, taxation to trade marks and property law to privacy. The intention of this article is to provide an introduction to some of the issues which arise for digital artists who might be considering entering the NFT market. It will examine the approach which the legislature, the regulatory authorities and the courts appear to be taking to some of the legal questions which have arisen, acknowledging that this is a rapidly developing area. These matters will be addressed principally from the perspective of the law of England

- 1 The first NFT is widely regarded to be that named 'Quantum', created by Kevin McCoy in 2014. See Valentina Di Liscia, 10 June 2021, Hyperallergic website, "'First Ever NFT' Sells for \$1.4 Million": <<https://hyperallergic.com/652671/kevin-mccoy-quantum-first-nft-created-sells-at-sothebys-for-over-one-million/>>.
- 2 A report by Cryptoasset analytics company Chainalysis reported that in 2021, users sent at least US \$44.2 billion worth of cryptocurrency to the two types of smart contracts associated with NFT marketplaces. The report is available for download at: <<https://go.chainalysis.com/nft-market-report.html>>. A different report by market analyst website marketsandmarkets.com estimated a global market value of US \$3.0 billion in 2022, predicted to grow to US \$13.6 billion by 2027: <www.marketsandmarkets.com/Market-Reports/non-fungible-tokens-market-254783418.html?gclid=Cj0KCQjw5ZSWBhCVARIsALERCvwT2z8qcYIEspGmy_4FpLXZMpJu2_3ViRgDfh-WsZW4YFDZplPZhp4aArJKEALw_wcB>.
- 3 The Hiscox Online Art Trade Report 2021 (Hiscox and ArtTactic) reported US \$3.5 billion of NFT crypto art and collectibles sales in the first three quarters of 2021, but a drop of 69% in September 2021 (p. 28): <www.hiscox.co.uk/sites/default/files/documents/2021-10/21674a-Hiscox_online_art_trade_report2021-part_one_1.pdf>. Crypto markets, including the NFT market, also fell markedly during the first half of 2022. See Amy Castor, 21 June 2022, "'It's Probably Gonna Be a Huge Cry Fest': Plunging Crypto Markets Cast a Shadow Over NFT. NYC and Its Jittery True Believers", artnet.com: <<https://news.artnet.com/market/cryfest-nft-nyc-2022-2133878>>.

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and Wales, with reference to other jurisdictions where useful, acknowledging that any meaningful discussion of such a global phenomenon – and indeed, the most appropriate and efficient legal response – will ultimately require a broader, supra-national approach.

The explosion of NFTs onto the market has posed difficulties for traditional legal frameworks and requires an adaptation to new business models and unfamiliar structures. It is not altogether unusual for the law to be placed in a position where it is required to react to changing societal and business habits, but the speed at which NFTs have secured a multi-billion-dollar market has posed significant challenges for legislators and regulators, such that at present, there are almost certainly as many questions as answers. Nonetheless, it is a fascinating time to be exploring these questions, as the responses to the multitude of pertinent issues begin to crystalise.

This article will take as a framework the lifecycle of an NFT, exploring the legal questions which arise at each stage, from the creation of the underlying asset (taking a work of digital art as the example) through to its minting as an NFT then onwards to its trading on the blockchain.

PRELIMINARY DEFINITIONS – THE NFT

It is worth noting that there is no universally accepted, official legal definition of an NFT. As yet, no legislation, authoritative guidance or decided court case is known to have offered a definitive, all-encompassing description. Conversely, a multitude of attempts to define NFTs colloquially can be found in press articles, blogs, websites and other commentary.

For current purposes, a basic breakdown of each aspect of the acronym is offered. The ‘token’ in ‘non-fungible token’ is essentially a line of computer code, or a set of metadata which is linked to, or which points to an underlying asset and which can potentially represent ‘ownership’ of that asset. In practice, the asset in question is very often a digital artwork, and this is perhaps the most common characterisation of an NFT. In reality however, a vast, and possibly limitless range of assets could be attached to or represented by an NFT. Other common examples include: video-clips of sporting events,⁴ music files, online games or gaming commodities,⁵ tickets for events,⁶ club membership benefits, even physical artworks⁷ and other tangible collectibles. The distinction between the NFT

4 A popular example is the NBA Top Shots ‘Moments’ product developed by Canadian NFT studio, Dapper Labs Inc. in partnership with the National Basketball Association (NBA). See <<https://nbatopshot.com/>> and see note 94 below.

5 An example is Tezotopia, an NFT game which allows players to earn NFTs known as Tezotops with opportunities to win various NFT-based prizes: <https://tezotop.io/?utm_campaign=Competitor+Gaming+-+Europe&utm_source=bing&utm_medium=ppc&utm_term=sandbox%20nft&utm_content=3409731xe5761c5120991cb36e2d7e1fcb5da1e1>.

6 An interesting example of a relatively early NFT project linked to event tickets was that undertaken by rock band, Kings of Leon. The band released limited edition NFT versions of its 2021 album *When You See Yourself* and at the same time, auctioned a small number of NFTs for lifetime tickets to see its shows. See Alex Hern, ‘Kings of Leon to Release New Album as a Non-Fungible Token’, *Guardian*, 4 March 2021: <<https://www.theguardian.com/music/2021/mar/04/kings-of-leon-to-release-new-album-as-a-non-fungible-token>>.

7 See, for example, businesses such as Flipkick which uses NFTs to authenticate physical works of art. Purchasers of a Flipkick NFT may either resell it or redeem it for the physical work to which the NFT is linked: <www.flipkick.io/>.

and the asset it links to is one which must always be borne in mind but which is often lost when NFTs are discussed in the media and in common parlance, where the NFT is often conflated with the underlying work. An NFT has been likened to the deeds to a house or a certificate of title or authenticity for an artwork or other collectible.⁸ Although the analogy is somewhat oversimplified, it may at least serve as a reminder of the crucial distinction between the token (equating to the deeds) and the underlying asset to which they link (i.e. the house).

The first element of the acronym, the ‘non-fungibility’, describes the unique quality of an NFT. There is only one version of the particular line of code comprising any single NFT so that it is not fungible or exchangeable with any other token on a like-for-like basis. Again, it is the token, the computer file or package of files, which is unique, rather than the underlying asset. There may be multiple copies of a digital artwork, for example, located on many computers and available to be viewed by anyone with a digital device anywhere in the world, but only one NFT attached to that work, authenticated by the artist himself. This quality of singularity distinguishes the NFT from other forms of digital tokens such as cryptocurrency, which, by their nature, are necessarily exchangeable. One unit of bitcoin is readily exchangeable with another because they will always have identical values and qualities. The unique nature of NFTs is one of the prime characteristics which have attracted the attention and adherence of digital artists. In the digital world, where replication, access and availability are almost unbounded, the ability to imbue works with the formerly elusive quality of scarcity has undoubtedly contributed significantly to the burgeoning of digital art sales through NFTs over the past two years.

INITIAL CONSIDERATIONS FOR THE NFT CREATOR – COPYRIGHT LAW

A basic understanding of a broad range of legal disciplines is undoubtedly a useful tool for any artist seeking to enter the NFT space, not least among these being the law of copyright, and an awareness of its key principles is crucial for those trading in NFTs. Copyright issues feature at almost every stage of the NFT lifecycle and instances arising in the NFT world in recent times suggest that misunderstandings about some of its fundamental tenets are fairly widespread.

Copyright arises in a variety of works including original artistic, literary, dramatic and musical works, films and broadcasts.⁹ It is an automatic and informal right, arising as soon as a protectable work is created (in contrast to registrable rights such as trade marks and patents, where protection starts only once an official registration has been granted by the relevant authority). With the important exception of works created in the course of employment, the first owner of a copyright work is the creator.¹⁰ Copyright gives the

⁸ An example of the use of NFTs as ‘certificates of authentication’ is provided by the company StockX whose ‘Vault NFTs’, launched in January 2022, are linked to physical products which are stored in its own secure, climate-controlled facilities and can be redeemed at any time by the purchaser of the relevant ‘Vault NFT’: <<https://stockx.com/about/stockx-launches-vault-nfts/>>. The marketing of Nike sneakers attached to Vault NFTs resulted in a trademark infringement suit against StockX by Nike. See p. 129 and notes 182-187 below.

⁹ Copyright, Designs and Patents Act 1988 (hereafter, CDPA 1988) ss. 3-8: <<https://www.legislation.gov.uk/ukpga/1988/48/contents/>>. For an analysis of artistic copyright see Simon Stokes, *Art and Copyright* (3rd edn, Hart, 2021).

¹⁰ CDPA 1988, s. 11.

right holder a bundle of quasi-exclusive rights, most obviously in relation to the copying of a protected work, but also with regard to other activities including communicating a work to the public (for instance through a broadcast or on a website).¹¹ It is often characterised as a negative right, enforced by the right holder preventing others from exercising his bundle of rights, or any of them, without a licence.¹² It is also a national right, so that, despite a degree of harmonisation through the operation of international conventions and treaties,¹³ copyright laws still vary, sometimes in important respects, from one jurisdiction to another.

The two most fundamental questions for a digital artist wishing to sell a work or collection of works through NFTs are firstly whether copyright subsists in the work and if so, who owns it. The answers to these questions will impact significantly on any dealings with that work.

In some circumstances, the answers to these fundamental copyright questions might be quite straightforward, but in practice, complicating factors will often arise. As to the subsistence question, in most jurisdictions a work must be ‘original’ to attract copyright protection. The threshold for originality differs somewhat across jurisdictions. In the United Kingdom, the bar has traditionally been set very low (merely that the work ‘originated’ with the author and was created through labour, skill and judgment).¹⁴ This test has been modified in recent years by EU legislation and subsequent case law from the Court of Justice of the European Union (CJEU) requiring a work to constitute the “author’s own intellectual creation”.¹⁵ Other jurisdictions apply a different (arguably higher) threshold, perhaps most notably the United States, where at least a ‘minimal degree of creativity’ is required.¹⁶ The assessment will always turn on its particular facts, of course, but some digital works (like their analogue siblings) may fail to reach the required originality standard.

The authorship of the works in question might also raise challenges. Artistic endeavour is frequently a collaborative enterprise, whether in the digital or analogue worlds.

11 CDPA 1988, ss. 16-21.

12 There are certain exceptions and limitations to copyright which apply in some circumstances, for example ‘fair dealing’ for particular uses in the UK and the more flexible ‘fair use’ concept applicable in the US. See p. 103 below.

13 Most notably the Berne Convention for the Protection of Literary and Artistic Works 1886 (see <www.wipo.int/treaties/en/ip/berne/>) and the so-called TRIPS Agreement (the World Trade Organisation Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994) (see <www.wto.org/english/tratop_e/trips_e/trips_e.htm>).

14 See *University of London Press v. University Tutorial Press* [1916] 2 Ch. 601 and *Ladbroke v. William Hill* [1964] 1 All E.R. 465; and more recently *Sawkins v. Hyperion Records Limited* [2005] 1 W.L.R. 3281.

15 The concept and language of ‘intellectual creation’ derives ultimately from the Berne Convention (see note 13 above). The ‘author’s own intellectual creation’ standard was first applied to specific types of works through various European Directives (Directive 91/250 (the Software Directive), Directive 96/9 (the Database Directive) and Directive 2006/116 (the Term Directive), then expanded to cover all works by a decision of the Court of Justice of the European Union (CJEU) in 2009. In the case of *Infopaq International A/S v. Danske Dagblades Forening* Case C-5/08 [19 July 2009] ECR I-6569, the CJEU held that the standard applicable to the Infosoc Directive (2001/29/EC) (which covers all types of works) was that of the author’s own intellectual creation.

16 See *Feist Publications, Inc. v. Rural Telephone Service Co., Inc.* 499 U.S. 340, 111 Sup. Ct 1282 (1991).

Any work created by more than one author, where the contributions of each author as expressed in the resulting work are inseparable, will be a work of joint authorship.¹⁷ The copyright in such a work will be jointly owned by all contributing authors. The exploitation of any such work in the UK (and many other jurisdictions) requires the consent of all joint authors. This means that if one of a number of contributing authors were to create an NFT of the work without the consent of all others, he risks infringing the rights of those other joint authors.¹⁸

Other questions more specific to the digital world might also arise. The rapid developments in computer-generated art – works created through the operation of an algorithm, or artificial intelligence (AI) – has been a notable feature of the art world in the past decade.¹⁹ A good example of such works in the NFT market is provided by the popular CryptoPunks characters, widely considered to be one of the ground-breaking creations of the early cryptoart movement. The CryptoPunks comprise a collection of 10,000 images of characters in ‘vintage’ 8-bit format, each with a unique set of randomly generated features,²⁰ and are sold on the Ethereum blockchain.²¹ Whether copyright can subsist in such works, where there is no identifiable human author, will depend on a number of factors including where the works are created. In the UK, computer-generated works are specifically addressed in the relevant legislation (the Copyright Designs and Patents Act (CDPA) 1988). Defined as a work “generated by computer in circumstances such that there is no human author of the work”,²² the copyright in a computer-generated work is owned by the person who makes the “arrangements necessary for the creation of the work”.²³ However, copyright in works with no identifiable human author may not be available – or may be more difficult to determine – in other jurisdictions.²⁴

The issues discussed above may be complex and require serious consideration by a digital

17 CDPA 1988, s. 10.

18 An important recent case which clarified the tests for joint authorship (in the context of a dramatic work, the subject of the case being a screenplay for a film) came before the UK courts in 2019-20: *Kogan v. Martin* [2019] EWCA Civ 1645; *Martin & Anor v. Kogan* [2021] EWHC 24 (Ch).

19 The first AI artwork ever sold at auction, ‘Portrait of Edmond de Belamy’ by French collective, ‘Obvious’, was sold by Christies in October 2018 for \$432,500, 43 times its initial estimate of \$10,000. See Alexander Herman, ‘Art, AI and Copyright’, Institute of Art and Law blog, 9 Nov. 2018: <<https://ial.uk.com/art-ai-and-copyright/>>. See also Asha Lee Jai Singh, ‘Is the Current UK Copyright Framework Sufficient for Protecting Technology in AI-Generated Art?’ (2022) XXVII *Art Antiquity and Law* 39.

20 The CryptoPunks were created in 2017 by Matt Hall and John Watkinson, founders of New York-based software company Larva Labs which was subsequently sold to Yuga Labs (creators of the popular Bored Ape Yacht Club NFTs) in March 2022 (see note 103 below). Prices vary according to factors such as scarcity, distinguishing characteristics, association with celebrities and other attributes. See Darryl Port, ‘CryptoPunks Price Guide: Why is This Collection Worth \$2Billion?’ on MoneyMade website, 29 June 2022: <<https://moneymade.io/learn/article/cryptopunks-price>>. See also <<https://nonfungible.com/market-tracker/cryptopunks>>.

21 For a detailed examination of the copyright issues arising in respect of CryptoPunks, see Brian L. Frye, ‘Are CryptoPunks Copyrightable?’ *Pepperdine Law Review* (Feb. 2022) available at SSRN: <<https://ssrn.com/abstract=4029323>>, <<http://dx.doi.org/10.2139/ssrn.4029323>>.

22 CDPA 1988, s. 178.

23 CDPA 1988, s. 9(3).

24 See Andres Guadamuz, ‘Artificial Intelligence and Copyright’ in *WIPO Magazine*, Oct. 2017: <www.wipo.int/wipo_magazine/en/2017/05/article_0003.html>.

artist keen to enter the NFT market, but they do not necessarily present insurmountable hurdles. The stakes are significantly higher where, rather than create a new artwork to tokenise (or ‘mint’, in NFT terminology), the artist decides to take an existing image in which the copyright is held by a third party as the underlying work to which his NFT will link.²⁵ If this process involves reproducing the work in question without the copyright owner’s consent, an infringement will almost certainly occur in most scenarios (barring any copyright exception applying).²⁶ Whether such reproduction is necessary in order to create the NFT will depend (among other factors) on precisely how that NFT is minted. Sometimes, a digital work will be incorporated directly into the NFT code itself, but much more commonly, the work will sit ‘off chain’, located elsewhere on a server, on a cloud computing system or often on the InterPlanetary File System (or IPFS).²⁷ The underlying work is then linked to the code through a ‘hash’ (in simple terms, a string of cryptographic data).²⁸ The argument has been raised that the linking *per se* does not involve an act of infringement of the copyright in the underlying work, but the legal position is far from clear. There seems a strong risk that the tokenisation and subsequent offer for sale without consent could potentially engage the ‘making available’ and/or ‘communication to the public’ rights exclusive to the holder of the copyright in the linked work.²⁹ Without any judicial analysis of such issues to date, these arguments remain somewhat speculative.

Even if copyright infringement can be avoided in the scenario described above (i.e. minting a copyright work without the right holder’s consent), this course of action involves numerous other legal risks of a potentially very serious nature. The tort of passing off is a prime example. This would occur where the creator of the work in question can demonstrate: (a) goodwill attaching to his work (quite possible for an artist with an established following or a known brand); (b) that the unauthorised minting of his work involved or amounted to a misrepresentation causing confusion (for example, because people assumed the NFT derived from the artist, not the NFT creator); and (c) that the artist has suffered damage as a result (for example, in lost revenues because people are buying the NFTs rather than buying digital works directly from the artist).³⁰

It was important to consider the distinction between the creation of an entirely new

25 Notably, some NFT marketplaces require artists to warrant that they have created the works they are minting. See the standard terms of the platform SuperRare, for example: <www.notion.so/SuperRare-Terms-of-Service-075a82773af34aab99dde323f5aa044e> – “Artists expressly represent and warrant that their Work is an original creation. Artists are prohibited from Minting Works consisting of unlicensed or unauthorized copyrighted content, including any ... unoriginal content not created by the Artist, not authorized for use by the Artist, not in the public domain or otherwise without a valid claim of fair use”.

26 See p. 103 below.

27 The IPFS is a peer-to-peer system for sharing, storing and accessing files, websites, applications, and data. See <<https://www.ledger.com/academy/what-is-ipfs>>.

28 In an article on the website ‘rightclicksave’, NFT expert Jason Bailey, creator of the well-known and highly informative art and tech blog Artnome.com estimated that only 10% of NFTs are on chain, 40% are on private servers, while 50% use the IPFS. See Jason Bailey, ‘The NFT Apocalypse’ <www.rightclicksave.com/article/the-nft-apocalypse>, 20 June 2022. The article also provides a useful explanation of the linking process and the benefits of IPFS versus storage on private servers, which creates significant vulnerabilities.

29 CDPA 1988, ss. 18 and 20.

30 For an interesting discussion of some of these issues, see: Andres Guadamuz, ‘Copyfraud and Copyright Infringement in NFTs’ on the technollama.co.uk website, 14 March 2021: <www.technollama.co.uk/copyfraud-and-copyright-infringement-in-nfts>.



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