

Non-Fungible Tokens: From CryptoKitties to Smart Contracts

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Although much of the legal framework and intellectual property (IP) implications surrounding non-fungible tokens (NFTs) are to be fully developed, analysis of key areas is possible by reference to existing law and there is optimism about how this use of blockchain technology may be used practically in the future. In this article, solicitor [Kelsey Farish](#) chats with our head of the Technology & Media team, partner [Tim Ryan](#), about this exciting technology and its implications for the digital media and entertainment sectors and wider ramifications...

Kelsey Farish: Tim, you've written about distributed ledger technology (DLT) in the past, and you understand what makes the blockchain ecosystem not only interesting from a technological perspective, but valuable from a commercial one. What makes the NFT so special?

Tim Ryan: In your average cryptocurrency system, a particular token will be indistinguishable from another token of the same value. Because it is "fungible" - effectively meaning mutually interchangeable - it can be exchanged or traded in a way that works similarly to any traditional currency. By contrast, non-fungible tokens are inherently unique and irreplaceable: that's what "non-fungible" is getting at. Because the NFT value is determined according to its unique personality or characteristics, the value is attributed to it by prospective buyers and sellers, creating a market opportunity.

Kelsey: Right, I remember that one of the first popular NFTs was CryptoKitties, where you could "breed" and "collect" what were essentially unique cartoons of cats, and then trade or sell them as you like on the Ethereum blockchain.

Tim: It's a good example. Each virtual CryptoKitty is unique, and cannot be reproduced. Importantly, it is owned by a particular user at any given time, and that ownership is validated through the blockchain itself. The value of the CryptoKitty in question can appreciate or depreciate based on demand in the market. In the digital media context, it's important to remember that the look, shape, sound and provenance of the particular NFT can really drive value, like any piece of tangible art would.

Kelsey: Picking up on that point about value, why are we seeing people get so excited about owning NFTs? Where does that value come from?

Tim: Well, we have touched on what some might consider to be a somewhat light-hearted and gamified use of the tech - CryptoKitties. However, at the other end of the scale, some are working on the use of NFTs in finance and the insurance industry. For example, Yearn Finance - a decentralised finance (DeFi) suite of products on the Ethereum blockchain - is enabling "tokenised insurance". That's the subject of a whole different discussion.

Kelsey: So, at this stage, in entertainment the value of an NFT is mostly personal?

Tim: Yes, unless the NFT provides the purchaser with some permission to commercialise its use - which is a potentially very big opportunity in future. Things like royalties, monetisation, licencing and possible tax implications will require some maturation, and are still being fleshed out by stakeholders. Presently, people are describing NFTs as more of a "bragging right" to prove you own digital art or collectibles. You could say that the value is similar to owning an original artwork by Mark Rothko, rather than just a mere print that you buy for £10 from a poster shop. Remember that, in the physical domain, Rothko's paintings of abstract art have sold for hundreds of millions of dollars.

Kelsey: I imagine storing an original masterpiece by Rothko at home would pose some serious security challenges. Are there any storage issues that owners of an NFT should be aware of?

Tim: Storing the work within the NFT itself, also known as "on-chain storage", is somewhat impractical, due to the relative inefficiency of transferring data, currently, and the manner in which transfers on blockchain platforms often trigger transactions fees. Instead, the original digital file to which the NFT relates will actually be stored on a different part of the Internet. Unfortunately however, if the file is stored on a server and then gets deleted or goes offline, the owner could be in real trouble - remember, the NFT is inherently unique and cannot be replaced.

Although the NFT industry has come up with a few solutions, there's no single best practice, currently. There are practical challenges too, for example, determining who has hosting responsibilities and how easily the purchaser can retrieve the valuable data on demand. Needless to say, the secure storage of NFTs remains an open issue for the time being, but we do have precedent in existing law and commercial practice when it comes to storing valuable data and intangible assets.

Kelsey: Looking at just the artistic and digital media aspect for a minute, rather than the cryptocurrency, what should we know about the intellectual property rights in an NFT?

Tim: The NFT can be anything digital, for example a new album by Kings of Leon. But at the end of the day, the NFT is essentially a license to the content in question. Accordingly, if you “purchase” an NFT it does not mean you necessarily own the underlying IP rights outright, unless the NFT includes a transfer of the IP. Remember, most of us are already familiar with this concept and do it on a daily basis when we “purchase” apps on our phones - that’s usually about licensing a software application, not ownership of it.

We also need to consider the legal framework of the marketplace promoting the NFT in the first instance. Some marketplaces will require publication related rights (on a non-royalty basis) in order to actually distribute the NFT, but some may be more restrictive, for example by prohibiting sub-licensing IP rights to third parties. In short, the concept of transferring IP within NFTs needs to be developed further and will depend on several factors. Contract law and other areas of law relating to the governance of online platforms, which we advise on all the time, has its part to play here, too.

Kelsey: Beyond the NFT as a specific piece of digital art or content itself, what do you think about the NFT in the digital media or entertainment context more broadly?

Tim: As lockdown restrictions begin to ease over the summer, I’m sure attending live concerts will be near the top of many people’s to-do lists. One such example of using NFTs in the live entertainment industry may be to help sell tickets securely. Ticket touts have historically impeded artists’ ability to effectively sell tickets to their fans, whilst protecting their revenue streams. NFTs’ ledger based technology, which is both highly secure and capable of implementing smart contracts, could enable artists to set caps on the resale values of their tickets. We continue to see the rise of smart contracts - which I’ve written about [previously](#).

Kelsey: You raise a good point about the underlying ledger, which is in essence a record of bundled transactions. In your ticket scenario, is there potential to trace resales back to artists, to help ensure they are appropriately compensated? This is obviously an important issue to many musicians and performers.

Tim: Absolutely. YellowHeart, the platform used to sell Kings of Leon’s most recent album as an NFT, provides a real-life example of this potential, which has even packaged VIP experiences as “golden tickets” in NFTs for certain Kings of Leon fans. The flexibility of DLTs, including whether they are permission based or available privately or publicly, also provide opportunities for a range of scenarios such as share transfers, stamping and memberships. The near-impossibility of amending data stored in DLTs presents an appealing prospect of securing bundles of transactions.

It’s worth briefly remembering that the immutability of blockchain is an ongoing topic for consideration by tech lawyers when considering areas of data protection law, such as the right to be forgotten - i.e., how that right, enshrined by GDPR, bumps into fixed blockchain records. We’re working on the application of existing and new law to current and emerging technologies all of the time. It keeps life interesting!

Kelsey: Okay, last question. Would you ever be tempted to buy an NFT yourself? If so, can I tempt you into buying one of my Tweets?

Tim: Yes, if the decimal point is in the right place in the price!

DAC Beachcroft’s dedicated technology and media law team handles the full range of matters and cases related to digital media, blockchain, and cryptocurrencies. The team, led by partner [Tim Ryan](#), includes [Kelsey Farish](#), one of Europe’s leading legal experts on synthetic media.

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Authors



Tim Ryan
London - Walbrook
+44(0)20 7894 6978
tryan@dacbeachcroft.com



Kelsey Farish
London - Walbrook
+44 (0) 20 7894 6320
kfarish@dacbeachcroft.com