



Explain the definition, commercial uses and legal implications of Blockchain on the music and entertainment industries.

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BMTY7002_LON_sem1_LBA2_2022_23_FINAL

15th December 2022

INTRODUCTION

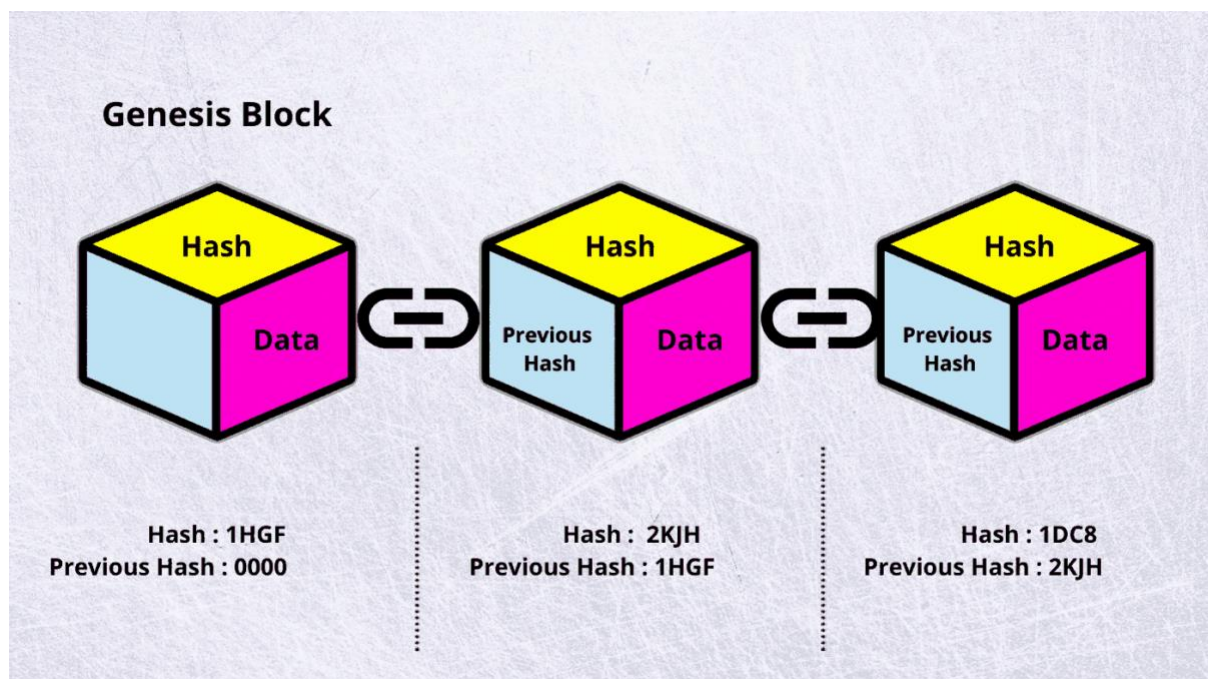
Within the last decade it has become impossible to avoid the term ‘blockchain’. The concept was first proposed in 1982 by cryptographer David Chaum but it wasn’t until 2009 that the first blockchain was created by Satoshi Nakamoto, to facilitate the Bitcoin cryptocurrency. At the core of blockchain is decentralisation, and to many crypto-purists this presents the opportunity to replace several layers of bureaucracy, such as labels and publishers and allow artists to communicate more directly with their fans. In this artistic utopia, artists would release their songs on blockchain platforms, linked to streaming platforms, who would pay artists directly and immediately, with fractional payments and no commission.

In this essay I will look at how blockchain is already changing the creative worlds and how far it can take us away from the established model.

WHAT IS A BLOCKCHAIN?

Blockchain is a database which stores data in a very different way to the relational databases (such as Oracle) that predominate in the business world today.

A blockchain stores transactions in the form of a block. As further transactions are received, they are added to the preceding block, creating a chain. When a block is being written, a cryptographic algorithm generates a key. This is known as hashing and is crucial in making the blockchain secure and tamper-proof. When a block has been completed and its hash calculated it is added to the blockchain, but crucially the hash is also written to the next block in the chain, creating a link between them which is essentially impossible to hack.



(Pillay, 2021)

The key features of Blockchain are:

Distributed - storing copies of the ledger on multiple nodes, under control of multiple entities, avoids single points of failure

Decentralized - validating the transactions via a trusted consensus mechanism avoids the need to rely on and trust any single (central) authority

Immutable - hashing the block contents and chaining the blocks renders the record data immutable

Secure - using cryptography, including digital signatures to provides state of the art security

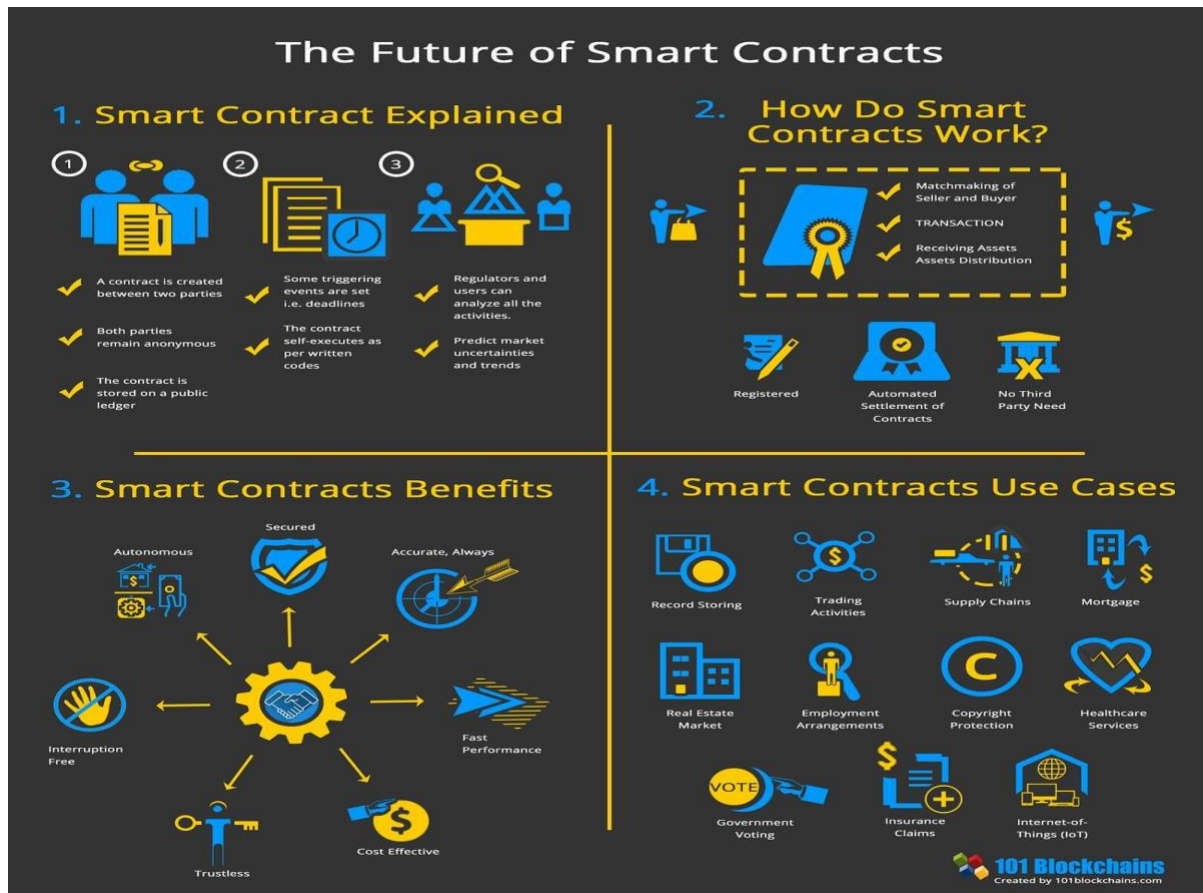
Cost-effective - eliminating unnecessary middlemen, reducing manual processes and cutting fraud reduce operational costs

Auditable – storing verified transaction data in a time-stamped manner facilitates auditing and regulatory reporting.

(Gatto, J. & Bear, A. (2018)

Whilst Bitcoin was the first blockchain, there are serious limitations underpinning it, particularly with the number of transactions it can process and the amount of data it can store in its blocks.

With further development the Ethereum network launched in 2015, with Ether as its native currency (ETH). As well as improved performance, and reduced energy consumption, Ethereum introduced the hugely significant feature of Smart Contracts which “are simply programs stored on a blockchain that run when predetermined conditions are met. They typically are used to automate the execution of an agreement so that all participants can be immediately certain of the outcome, without any intermediary’s involvement or time loss. They can also automate a workflow, triggering the next action when conditions are met.” (IBM)



(101 Blockchains, 2018)

Smart Contracts are the building blocks of NFTs (Non-Fungible Tokens) which is why they mainly exist on the Ethereum blockchain.

Blockchains were developed in order to facilitate cryptocurrencies and for many years they were the only applications running on blockchains. It seems as if there is now a mad rush to all things blockchain and NFTs and the technology is now firmly in the mainstream, as is illustrated by these recent headlines:

“David Bowie estate teams up with digital artists for special NFT project” (Evening Standard, 2022a)

“Sotheby’s will auction off rare ring authenticated with an NFT” (Evening Standard, 2022b)

“Arsenal adverts for cryptocurrency ‘fan tokens’ banned” (The Guardian, 2021)



With specific regard to the music industry, there are a huge number of blockchain projects already in the market with live products and many more in development. Many of these will not make it and already it is interesting to see companies that were heavily pushing a concept only a few years ago that have now pivoted to something completely different as they realise that their product simply wasn't going to be commercially viable. For the scope of this essay, I will consider those areas that are already being impacted by blockchain or that I believe has a realistic prospect of changing the music industry landscape.

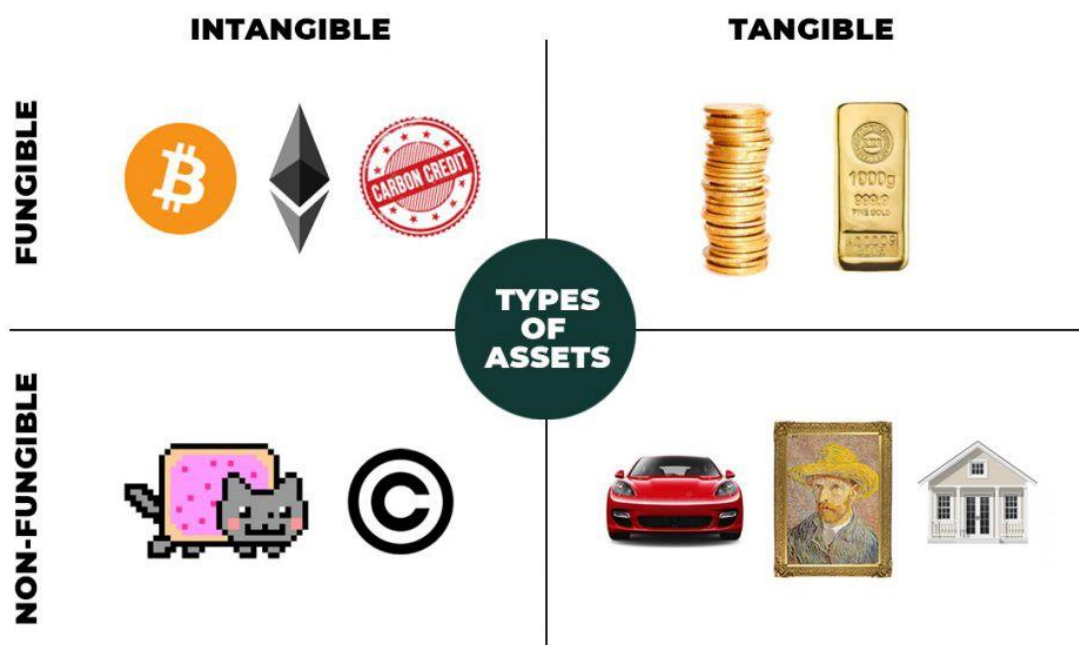
NFTs (NON-FUNGIBLE TOKENS)

The Economist (2022) describes a NFT as “a record on a blockchain that represent pieces of digital media...that can link not only to art but also to text, videos or bits of code...which solves a thorny problem with digital art: how to own an original.”

As digital media can be duplicated with a couple of mouse clicks, we have lost the concept of the ‘original’, which of course is paramount in the physical world. NFTs are a solution to this issue, but I’m not convinced it was that much of a problem in the first place.

Having taken over the art world in 2021 with collections such as CryptoPunks, CryptoKitties and Bored Ape Yacht Club, NFTs swiftly entered the music world. Due to Art getting there first, people still seem to associate Music industry NFTs as accompanying art, which they often are, but they can be so much more.

Asset types:



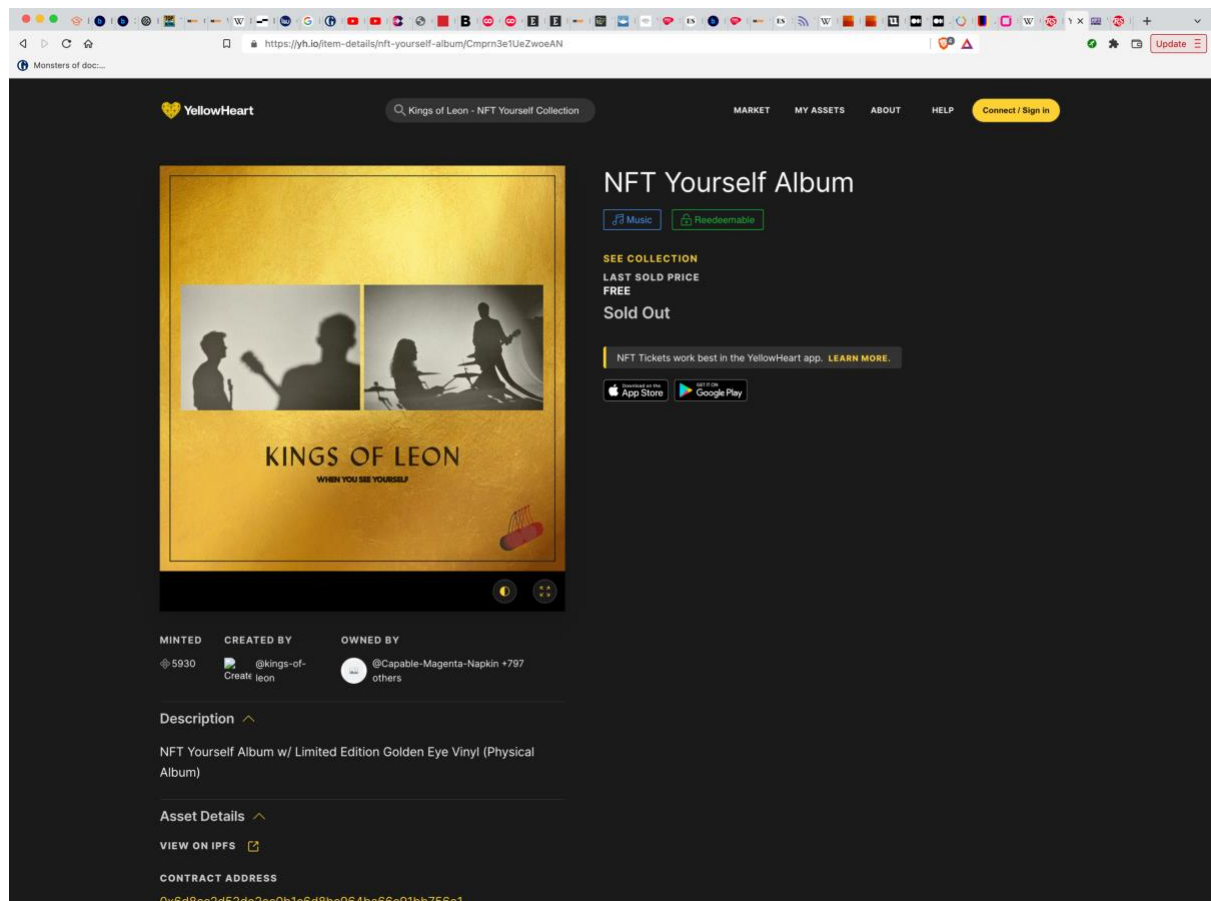
(Kaabar, 2022)

In March 2021, Kings of Leon released the album ‘When You See Yourself’. As well as releasing it to all the streaming services, they released it on the NFT platform YellowHeart, the first album to be issued thus.

Included in the \$50 NFT package was a digital copy of the album, a vinyl copy and some enhanced artwork. More interestingly, a limited number of VIP packages were also linked to the NFT, giving six lucky fans front-row tickets to for every Kings of Leon tour for life. This package was only available for two weeks, and at the end of this fortnight the package became tradable. As with all collectibles the price could be considerably more than the \$50 initially charged, however, thanks to a smart contract being embedded into the NFT, a proportion of

any sell-on profit will automatically be diverted to a charity specially chosen by Kings of Leon (Rolling Stone, 2021).

This one example shows how powerful NFTs can be, and that they are very much more than just artwork. The largest NFT marketplace is OpenSea, who publish a weekly chart of the most traded music NFTs: <https://topoftheblocks.com/>.



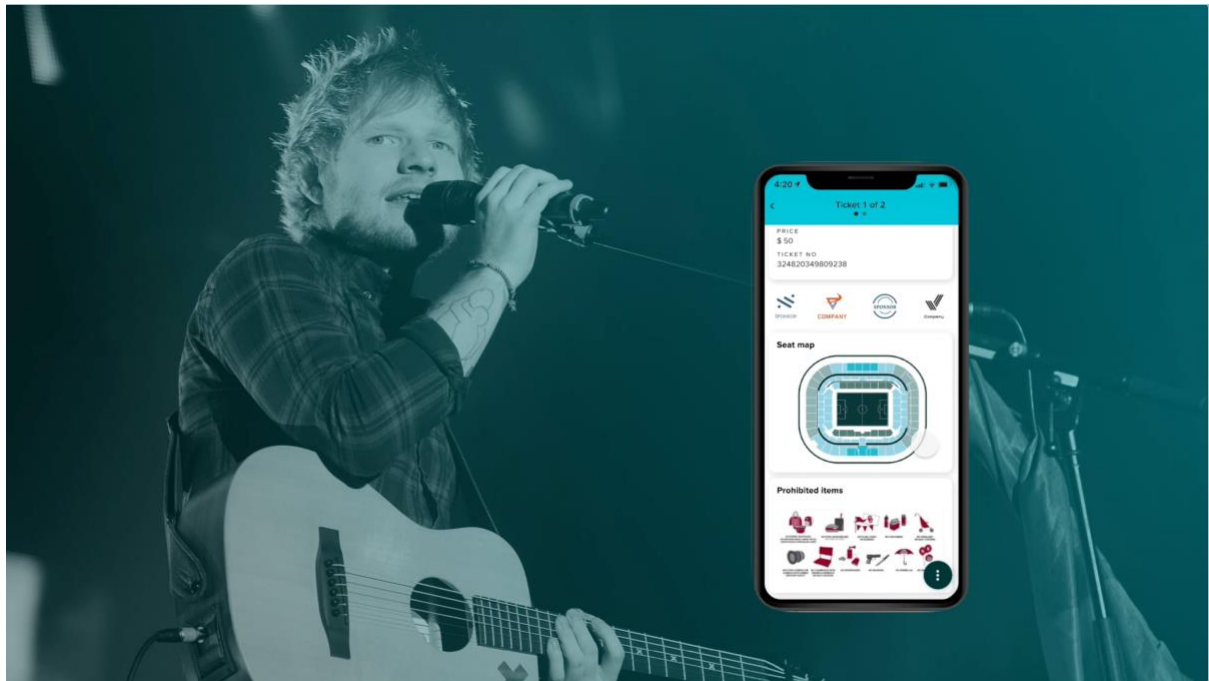
NFT TICKETING

Another way in which NFTs can be used is for ticketing. Buying tickets for big events has become ever more of a lottery – sale date is announced, you set your alarm to get ready, you get as many devices as you have logged-on and waiting in the queue. If you're lucky you get through and you purchase your tickets, after paying the hefty booking fees and P&P and even home-printing fees. Not only are you up against fellow fans, but touts using industrial level ticketing bots. And of course, once the ticketing companies realised that fans were willing to pay way over the odds to touts via secondary platforms, they started diverting more and more tickets away from the initial sale to their own secondary sites, making it even harder to get hold of a precious ticket.

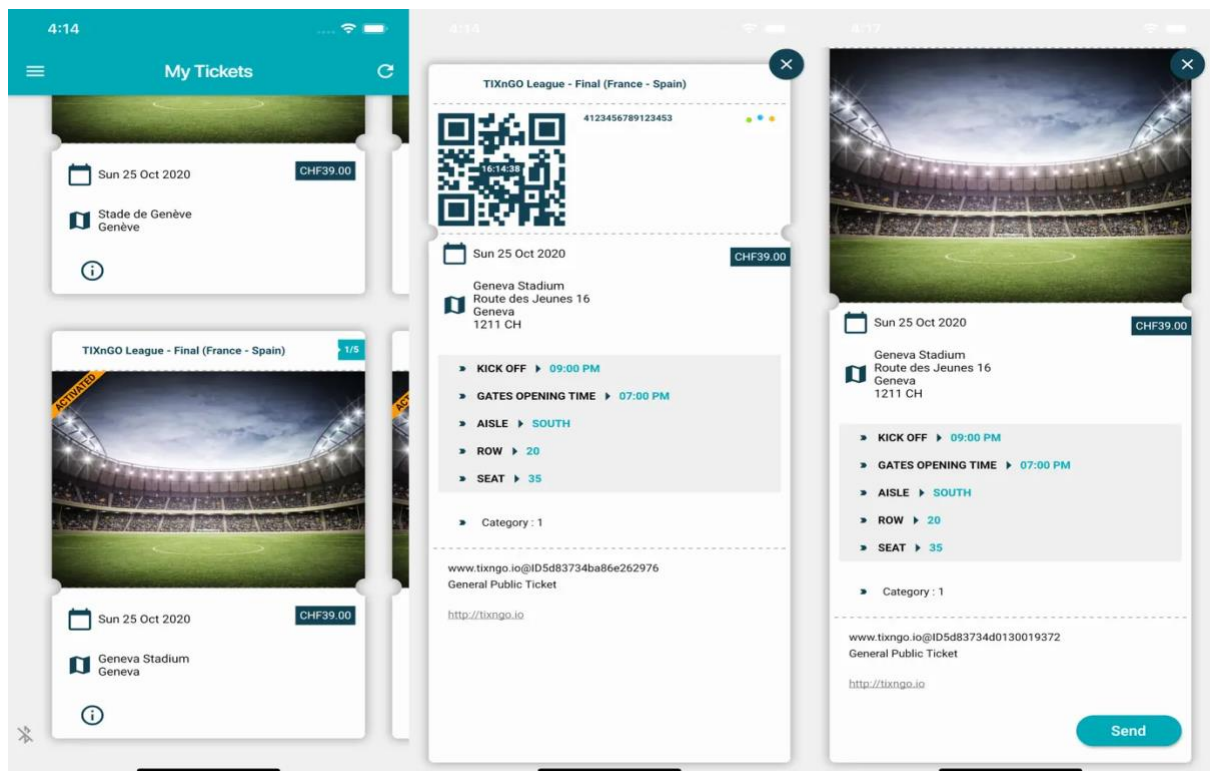
NFTs can transform the ticketing experience, for both buyers and event organisers:

- 1) Authenticity – tickets are created on the blockchain as unique, immutable and encrypted, ready to be stored on the client's phone-based wallet. Both parties can verify the authenticity of the ticket.
- 2) Resale – the ability to sell on a ticket can be prevented if necessary, but most likely allowed with a smart contract dictating a re-sale price range and the option to recoup a percentage of the re-sale value back to the organisers. History of ownership is recorded.
- 3) Frictionless – Unforgeable tickets can be created (minted) instantly at a far lower cost than traditional methods and be immediately available.

One of the companies pioneering ticketing NFTs is Secutix with its TIXNGO product. According to their website “millions of tickets have been securely distributed and exchanged worldwide using TIXNGO. We've not only proved not that it works, but that it works at scale for huge sporting events and for high-profile artists in the creative industries, as they unite to tackle fraud and the exploitation of their fans.”



In this year alone, TIXNGO has been selected to be the ticket supplier to Wembley Stadium and the NEC in Birmingham. This is the first time a UK arena group has adopted a blockchain based ticketing solution (Hanley, 2022a). Whilst the ‘behind the scenes’ software will be the same, the app on the customer’s phone will be different for each client, being completely customisable in ‘look and feel’. Crucially, the app will feel just like a non-blockchain wallet, with none of the hangovers from crypto trading apps, such as having to back-up private keys and key-phrases.



Keen to ensure that they do not lose market share to the disruptors, Ticketmaster, the global leader in live-event ticketing, acquired blockchain technology company Upgraded in 2018. They recently announced that event organisers would be able to issue NFTs alongside tickets on the Flow blockchain “extending their live event experience through digital keepsakes that can be shared online or activated to access unique loyalty rewards, VIP engagement opportunities and more.” (IQ Magazine, 2022). Using this technology, Ticketmaster issued 70,000 unique ticket based NFTs for the 2021 Super Bowl.

CROWDFUNDING

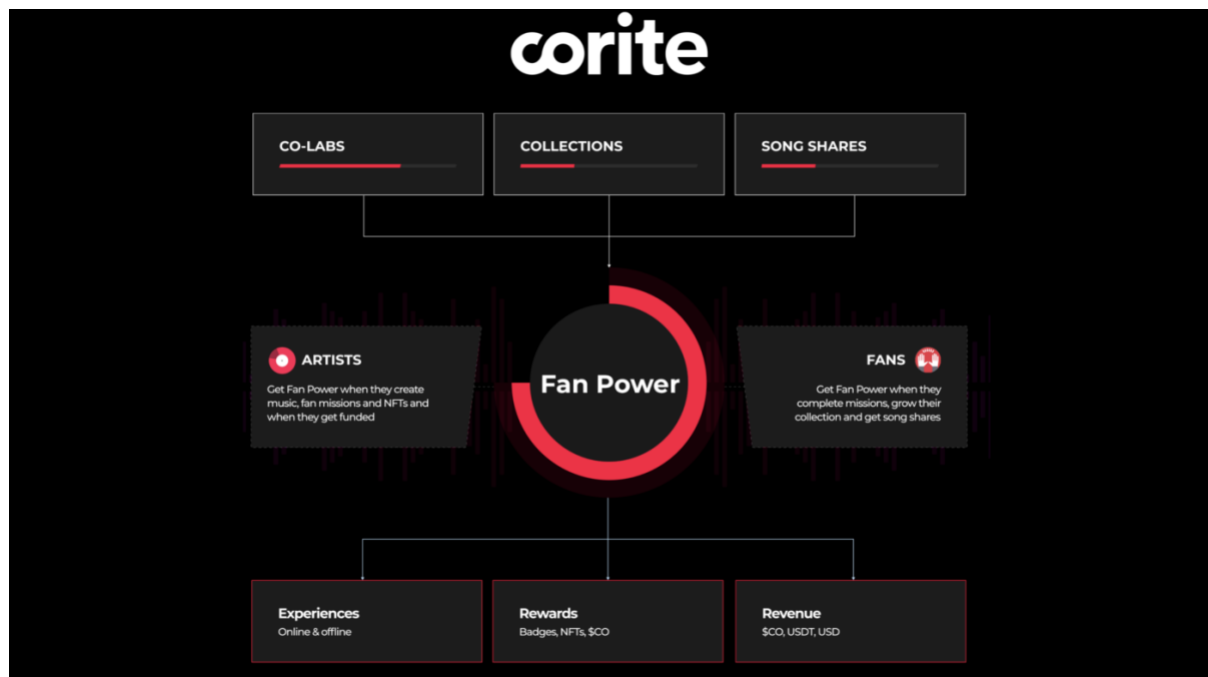
Whilst the term Crowdfunding is only as old as the Internet, the principle is not new. Like-minded individuals coming together to raise a sum of money for the purpose of creating a product. The growth of the internet has obviously facilitated the massive growth in crowdfunding activity over the last decade.

An early example of Crowdfunding in the internet age:

Marillion – In 1997, due to financial difficulties with their American record label, Marillion were forced to cancel their tour to the USA. Outraged fans raised £39,000 to fund the 21 date tour, and subsequently in 2001 the band asked their fans to pre-order the Anoraknophobia album a year in advance. (Golemis, 1997)

Corite is a Swedish crowdfunding site where artists can appeal for their fans to finance individual tracks in return for a commensurate share of the streaming revenue. After proving the worth of this model using legacy technology, Corite have swiftly moved to the next iteration of their platform, Corite CO, utilising the BNB blockchain. Unusually they have retained both platforms and consider this hybrid approach the best solution as they are aware that not everybody is ready to make the move to blockchain. They raised \$2.2 million in a pre-sale for their proprietary token \$CO.

According to Mattias Tengblad, CEO and Co-Founder of Corite, “The new music industry will be driven by hundreds of thousands independent artists using the power of the fans to grow their careers. Blockchain technology is the perfect answer to this trend, enabling artists to keep control of their art with higher margins and also create new revenue streams monetizing digital art and music. This is what we call *fan power*.”



Corite's main competitor in this field is the American company Royal, who recently hosted a ground-breaking NFT release from the rapper Nas. This release was available in several tiers and a \$99 investment in the song would have yielded a 0.0133% share of the song's streaming royalties. (Thomas, 2022). A look at Royal's website shows that the average selling price of that \$99 token is \$191 a pretty decent return over a few months.

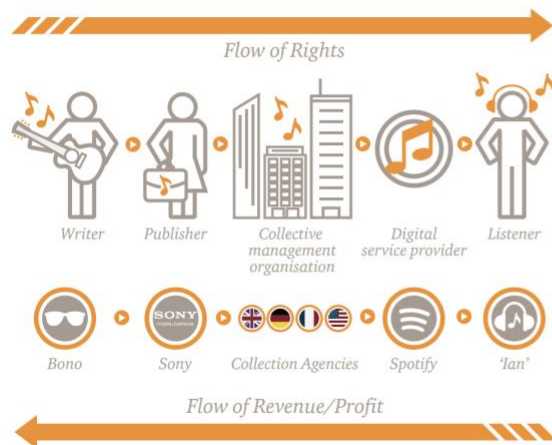
It is worth noting that legally, the buyers of streaming rights on these platforms do not actually own the rights, they merely have the cash distributed to them after it has been collected in the usual manner via the collecting agencies.

DIGITAL RIGHTS MANAGEMENT

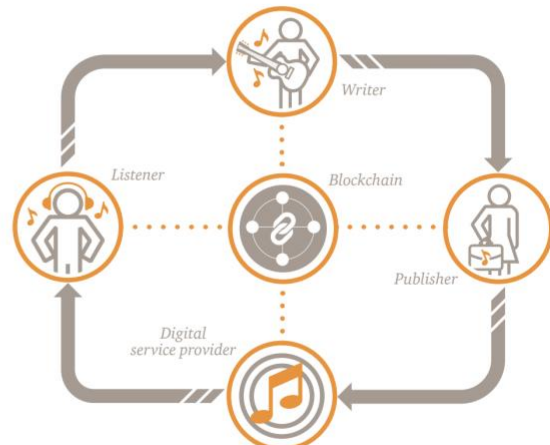
Having worked at PRS for Music for almost ten years I have an appreciation for how much effort it takes to maintain an accurate database containing 30 million works. Most of these records are input by their members, including the publishing houses, and rights change hands frequently. There are teams of people throughout the organisation whose primary role is data integrity, but it is impossible to be 100% correct all the time.

The system of collecting royalties on behalf of rights-holders is byzantine. There are 218 Collective Management Organisations (CMOs) in 119 countries (CISAC) representing millions of individual song writers and thousands of publishers and record labels. They will store data in their own in-house databases, sharing with CMOs as necessary e.g. UK based publishers will feed in to PRS for Music's ICE database (itself a joint database with STIM of Sweden and GEMA of Germany). This is expensive, cumbersome and is prone to error and revenue leakage. The diagram below illustrates how the system could be streamlined using blockchain technology:

Without Blockchain



With Blockchain



(Lube, Cushley and Maitland, 2021)

Back in 2017, Robert Ashcroft, the then CEO of PRS for Music stated:

“Establishing authoritative copyright data has long been a goal of PRS for Music and is one of the biggest challenges the industry faces. Blockchain and distributed ledger technologies are opening up a world of new opportunities for all industries to address long-standing challenges. The digital market requires real-time reporting on behalf of multiple stakeholders across the world. If blockchain can help us achieve this, it will unlock opportunities for developers of new digital applications, increase accuracy of royalty payments and release value for rightsholders.”

Five years on from that statement yet no progress has been made, at least publicly. Yet in that time dozens of blockchain-based music sites have been created, such as Mycelia and Muse. Another is Mediachain which “is a peer-to-peer, blockchain based database for sharing information across different applications and organizations”. Sounds like just the kind of product that could help navigate the complex royalties environment described earlier. The fact that Mediachain has already been snapped up by Spotify should set alarm bells ringing in a lot of legacy organisations.

So why has the blockchain revolution stalled in this crucial area? The main reason I believe is the sheer technical difficulties in moving an entire worldwide, complex ecosystem to a new architecture. Even now there is no standard approach to solving this problem. Mycelia, for example, has adopted completely different standards to Revelator, and are competing against each other rather than collaborating.

CONCLUSION

Many would say that the music business has been ‘broken’ for decades, with songwriters and artists, who after all are the creatives in the equation, at the bottom of the pile when it comes to being financially rewarded. Record labels and publishers making hefty, growing profits, venture capitalists buying up legacy catalogues and streaming platforms devaluing music by selling it for a few pounds a month and CMOs taking months or even years to distribute royalties.

Influential figures are calling for the decentralisation of the music industry, with blockchain at the heart of these plans. MusicTech firms are nibbling at the edges of the industry and creating new revenue streams. But the ‘old guard’ are holding firm – the publishers, the record labels and the CMOs. They own two commodities which put them in a privileged position – copyrights and data.

All the hits, the legacy catalogues, the big names, are all in the hands of corporations (Universal Music alone owns 3 million songs) and these songs are not only generating revenue for them today, but will continue to do so for decades, given the life of copyright is 70 years, putting them in an unassailable position.

In order to create a blockchain based global music infrastructure, current and historical data is going to be needed, and that is all in the hands of the CMOs. If they could be persuaded to come together and develop a standardised database, utilising blockchain, with them retaining their role as guardians of the data, a hybrid solution could be the answer to the unbalanced system we have today.

I will give the final word to Bruno Guez, CEO of Revelator who despite being a disruptor, is pragmatic enough to realise that the solution is not purely technological,

“At its core, the answer lies in better, more effective rights management and in a good protocol for copyright and royalty settlement to set the stage for future decentralization, as needed. Smart contracts will become the application layer that turns the internet into a native settlement layer, meaning fewer middlemen and less accounting and shuffling of royalties.” (Guez, 2021)

(WC = 2736)

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