



## **BSAC Business Briefing**

### **What is the Blockchain and what could it mean for the audiovisual industries?**

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*This paper was prepared for BSAC by Cliff Fluet,  
Partner, Lewis Silkin LLP, and Managing Director, Eleven Advisory  
and presented at the June 2016 Council Meeting.*

#### **Background**

Oliver Oram, CEO of ChainVine, Benji Rogers, founder of PledgeMusic & the 'dotblockchain' project, and I had the privilege of addressing the British Screen Advisory Council's annual Film, TV & Games Conference 2016.

We were asked to present on the possibility for Blockchain technologies to the audiovisual sector and I am delighted to say that the presentation has prompted a significant response. To that extent, I have been asked to prepare this paper for BSAC that provides some further detail to explain the technology, its application to date, how certain media industries (digital imagery and music) are using it and provide some thoughts as to how the audiovisual sector could engage with the technology.

#### **Introduction**

Over the last few years there has been much discussion and controversy about Bitcoin, but in more recent times there has been ever greater interest in the technology underpinning this digital currency.

The platform, or rather protocol, known as the Blockchain is now widely acknowledged as having profound consequences for the worlds of finance, supply chains, logistics, and the Internet of Things. This paper examines the background to and origin of the Blockchain, and also poses some questions and/or opportunities that it could present for the world of media and/or the creative industries.

## **The Blockchain Protocol**

In 2008, a white paper written by an individual (or group of individuals) under the pseudonym 'Satoshi Nakamoto' described the use of a Blockchain protocol as a means of creating a digital currency.

Bitcoin, the first and largest digital currency (of many), solved the longstanding theoretical problem inherent to online currency of the 'double spend' – that is to say, if an electronic/digital unit of currency existed, how could one 'guarantee' whether or not any unit of that digital currency would be the only, real 'copy'.

The Blockchain solves this problem by allowing entries to be made separately in thousands, if not millions of separate 'books', between digital 'wallets', over a distributed public ledger, thereby creating an interdependent, interlocked system of accounting records that are immutable and highly resistant to fraud. As the entries are both distributed and sealed on a cryptographic basis, either concealing such activity or falsifying them in any credible way is extremely difficult, if not nigh on impossible. And, as the protocol is based upon 'cryptographic blocks' of validating transactions that are linked together in a 'chain' to determine the nature of the transactions, it was called the Blockchain.

In 2009, the Blockchain protocol was released as an open source platform that allowed any party to create their own system and, much like the World Wide Web, it is not owned by any centralised authority. The very nature of the distributed ledger means that these transactions can take place without the need for any centralised authority, such as a bank or clearing house, as all computers that participate in the protocol have access to the shared, distributed ledger and record every transaction made within the system. This makes it extremely difficult for people to forge or 'double spend' the units that are created.

## **Ethereum and the next stage of Blockchain**

As the technology permits robust financial transactions at a time when companies face significant challenges in data management and security, hundreds of companies are looking to use the Blockchain to make and verify transactions without reference to a central authority, or are experimenting with distributed ledger technology as a secure and transparent way to digitally track the ownership of assets.

Bitcoin has, to put it mildly, acquired a 'mixed reputation'. Whilst a significant number of technologists, financial technology gurus and early adopters have been earning/accumulating Bitcoin, its links to illicit activities and significant fluctuations have created an aura of mystery and uncertainty around the currency, despite it having now being established for some years.

Regardless, the development of the underlying Blockchain technology is increasingly accepted as having significant implications far beyond the Bitcoin. The Bank of England has described it as a significant key innovation for society and finance in general and many companies have already created applications and uses to be built upon the Blockchain that would really make things revolutionary.

For example, Ethereum allows the creation of so-called ‘smart contracts’. Whilst the Blockchain allows currencies such as Bitcoin to use a specific scripting language for transactions, Ethereum uses a more complex language, and allows one to program into any digital transaction certain conditions, rights, permissions and/or restrictions before or after it allows a transaction to occur. To this extent, these are no ‘contracts’ and I personally prefer using the term ‘smart permissions’.

Using ‘Ether tokens’ to ensure that programmed tasks/restrictions have been fulfilled allows for a wider use of the technology beyond creating a cryptocurrency, including decentralised data storage, decentralised voting, shared savings accounts and many asset management tasks.

Theoretically, Ethereum can be programmed to serve almost any purpose including the dissemination of media. With this significant level of flexibility, many foresee this as the most powerful and impactful new digital platform since the internet and/or the worldwide web.

### **What are the applications for Blockchain outside of finance/data transactions?**

There are now hundreds of startups in the Blockchain space, with hundreds more companies and firms within commerce and banking creating, incubating and acquiring companies in this area.

Last October, *The Economist’s* front page “How the technology behind Bitcoin could change the world” caught many business leaders’ imaginations and the newspaper identified that at the moment Blockchain companies currently fulfil tasks in three broad areas:

1. *Asset transfers*: using Blockchain’s ability to transfer digital assets or create data to attach to ‘real world’ transfers/transactions.
2. *A truth machine*: Blockchain transactions being combined with key information which can and will be forever embedded in the ledger, such as the provenance of a piece of art or a gem providing unchallengeable evidence in the case of theft.
3. *Smart contracts (or smart permissions)*: Allowing transactions on the Blockchain to be programmed to execute subject to the fulfilment of certain conditions.

Some companies are looking to combine all three areas, such as ChainVine, who presented at the BSAC Film, TV & Games Conference this year.

## **What could this mean for media industries in theory?**

In the 20 years since its mass adoption, most will agree that the world wide web has come to represent the ‘internet of information and communications’ and that, by providing a frictionless interlinked platform, information and content can now go around the world as fast as networks can carry it. The opportunity for the Blockchain is that it could represent the ‘internet of value’. By being, in and of itself, a robust payment platform it could allow rights owners to disintermediate brokers and/or payment providers that deduct anything between 1% to 30% simply for ‘reselling’ goods in an online environment. As many BSAC Members will know, selling digital goods is complex and not nearly as ‘cost free’ as people may assume. With the cost of handling chargebacks, fraud prevention and security systems being so high, the Blockchain could enable robust secure transactions without these extra costs and ease business to consumer sales.

The use of smart contracts (or smart permissions) provides the opportunity to bind payments and transactions to certain actions and outcomes. Whilst smart contracts will not dispose of the need for contracts and/or lawyers (smart or otherwise), they could significantly reduce bureaucracy, paperwork and deal memos that currently need to be put in place around the digitisation of virtually all content, whilst at the same time providing the opportunity to ‘embed’ non-invasive rights management technology into author permissions.

In many areas of the media there is a paucity of accurate consensual data and a complete lack of a centralised, global database of rights ownership. Whilst such inefficiencies were tolerated as part of an analogue world, in the digital world rights owners and creators are desperate for greater transparency and clarity regarding usage of their works and the attribution of any payments. By way of example, the Blockchain could enable an original music file to be stored along with a cryptographic hash detailing all creators and rights holders, with percentages and/or revenue flows encoded into the file so that payments could be made on a near instantaneous basis. In the music industry, collecting societies are looking at Blockchain technology as a way of meeting their obligations to provide stakeholders with greater transparency. Information could be encoded into any online media asset in relation to chain of title and ownership, which could significantly ease the due diligence parties are currently required to undertake prior to the acquisition and/or exploitation of content.

## **How is the Blockchain being applied in media right now?**

Perhaps unsurprisingly, two areas of the media industry that were hit by the impact of the internet early seem keen to be ‘ahead of the game’ in relation to this technology and a number of parties within the music and digital imagery industries are working with Blockchain technology. In the past, these industries sought to tackle the issue of attribution and online digital rights management in ways that were perceived as invasive and/or offensive to consumers, and rights owners have tried everything from paywalls to litigation in order to enforce their rights. By now, many years on, these industries have understood that content must be made available to consumers on a frictionless basis, whilst also ensuring that usage and attribution are tracked in order to allow payment.

Companies, such as Mediachain, are working with such companies as Getty Images and organisations including the Digital Public Library of America and the Museum of Modern Art to track and create a register of their existing digital inventory and to create protocols that allow metadata to be captured the moment a piece of work is put on Instagram or any other online platform. Others are seeking to establish scarcity in the world of digital art by creating the opportunity for authors and/or photographers to set into the Blockchain limits upon how many 'editions' there can be for any particular image and using the Blockchain to ensure that, if you acquire a piece of digital art which is 'number one of fifty', there will never be more than fifty copies 'out there'.

In the music industry, a number of start-ups, companies and artists are looking to use the Blockchain in order to enable payments, collaboration and administration all at the same time. One of these, PeerTracks, is according to their CEO a "music streaming and music retail platform that allows for fan engagement and peer-to-peer talent discovery". In short, it uses the Blockchain to manage its financial transactions and disseminating monies generated by streams directly to the artists that users are listening to in real time (or somewhere close). Another platform, Ujo, is built as a rights database and payment infrastructure for tackling the issue of distributing money to creators and rights holders, whilst also helping to determine the ownership of created works – as BSAC Members will know, the number of individual rights holders within a single piece of music can be significant, which makes both distribution and licensing difficult. Artists including Imogen Heap have released tracks using Ujo and Heap is building her 'Mycelia' project to create a free platform where musicians have complete control over the data created by their songs' distribution. This is also a 'fair trade platform', which ensures that every single contributor can be rewarded by way of smart contracts, in real time. Imogen is working with a number of hackers and/or third parties using Blockchain technology in order to create the platform that will underpin her Mycelia project.

Companies such as ChainVine, a service solution provider using Blockchain technology for asset management, transfer, encryption and payment, are working with a number of enterprises in order to deploy their asset management, identity management and entity management systems, and are running a pilot project with online audio platforms. They are also in discussions with rights holders, platform and payment clearing houses as to how to build their businesses.

Benji Rogers, the founder of Pledgemusic, joined Oliver Oram of ChainVine and myself at the BSAC Film, TV and Games Conference to talk Blockchain. Benji is now seen of one of the leading evangelists in the world of Blockchain for media. Last November, Benji wrote a blog post on Medium where he outlined how the audiovisual industry would likely be initially resistant to making the existing world of audiovisual content backwards compatible on the Blockchain. However, as the audiovisual world is already in the process of making a huge investment in so-called 'immersive content' (i.e. augmented reality, virtual reality 360 videos, etc) he presented a concept that would use Blockchain technology to enable a new common standard (or 'wrapper'), to ensure that all stakeholders can be paid as quickly as possible. Benji's blogs really do deserve to be read in detail and are available at:

Part 1: <https://medium.com/cuepoint/bc-a-fair-trade-music-format-virtual-reality-the-blockchain-76fc47699733#.24szyffo1>

Part 2: <https://medium.com/cuepoint/how-the-blockchain-can-change-the-music-industry-part-2-c1fa3bdfa848#.u06dtfvuw>

Benji has now launched his .bc project at [www.dotblockchainmusic.com](http://www.dotblockchainmusic.com).

## Summary

I am now regularly asked by clients and peers whether or not the Blockchain could ever really be a ‘thing’ for media in a world where the fragmented and/or multi-layered audio and audiovisual rights managed by my clients do not immediately appear to be ‘compatible’ with intellectual property rights and the misaligned interests of the various stakeholders. My settled view is that the same disbelief greeted the World Wide Web, mobile, streaming, safe harbour platforms and the new world of embedded content and messaging, social media platforms and apps. The fact that intellectual property rights do not ‘sit comfortably’ on these platforms does not appear to have been any impediment to whether or not these platforms eventually become ‘a thing’ (or indeed, everything).

In a similar vein, one might consider how the music industry did not ‘work’ for Napster. However, what Napster demonstrated customers wanted – access to as much music as possible, quickly, and through peer-to-peer technology – has since been developed and now underpins many of the world’s content management systems. To this extent, one could draw comparisons between Napster and Bitcoin and, consequently, between peer-to-peer and the Blockchain.

The only difference is that, unlike those other technologies that allowed for the free, unfettered, and uncontrolled use of content, the Blockchain might, just might, represent an opportunity to capture and create value in the way that rights holders deserve, yet delivered in a way that consumers want.

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