

Blockchain Digital Assets in Virtual Reality, Video Games and eSports – Ready Lawyer One?

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Virtual worlds similar to the [OASIS](#) in Steven Spielberg’s upcoming film [Ready Player One](#) may be closer than we think – and provably scarce, blockchain-based digital assets could provide the leap forward that gets us there. Already, developers are testing early implementations.

Since [CryptoKitties](#) launched at the end of 2017, promptly causing a [traffic jam](#) on the Ethereum network and proving that [crypto-collectible](#) “games” leveraging blockchains can be a hot commodity, a number of [copycats](#) have [sprung up](#).

While interesting, this first generation of blockchain games has been a relatively simple series of experiments. Meanwhile, developers have taken note of the potential synergies between blockchain-based digital assets and the mass-market video game and virtual/augmented reality space. As they explore potential ways of using blockchain technology to make virtual worlds and interactions more immersive and to build better bridges between in-game and real-world commerce, there are a number of legal issues to consider.

Making the Old New

The video game industry is no stranger to tradable digital assets. [Second Life](#), an online world that launched in 2003 ahead of its time, enables users to generate virtual representations of themselves (avatars), socialize with other “residents,” create virtual property (which they can imbue with functions and animations using Second Life’s procedural scripting features) and launch [virtual retail, service and other businesses](#). In Second Life, users can buy and sell virtual property (such as custom clothing or furniture for their avatars) using the game’s own virtual currency, the [Linden Dollar](#). Linden Dollars can be traded with other users for real-world currency on LindeX, a proprietary exchange operated by Second Life’s developer, [Linden Lab](#).

Although Second Life is still used today by over [half a million people](#), it never reached the widespread adoption that Linden Lab envisioned. Explanations vary, but it's worth noting that Second Life is fully centralized. Linden Lab has complete control over the Second Life world and its economy. It has the ability to increase the amount of virtual land and other property within Second Life and various mechanisms it can employ to control the supply, use and flow of Linden Dollars. Some users have also reported irretrievable loss of digital property due to technical issues, as well as fraudulent user behavior enabled in part by a lack of transparency regarding the total supply of, and the inability to verify authenticity of and track, virtual items.

A number of [mainstream games](#), including those used for eSports competitive play, also enable players to purchase in-game items. Developers often do not provide official marketplaces for players to exchange those items for cash, however, so users have had to resort to [grey markets](#) outside of the game ecosystem, where scams abound.

Enter blockchain, with its ability to generate and track cryptographically unique, non-fungible, verifiably scarce digital assets, attribute authorship to content creators, implement escrow-like functionalities through smart contracts and facilitate peer-to-peer digital payments.

Virtual Worlds Built on Blockchains

[Decentraland](#), which raised [\\$26 million via an ICO](#), is a decentralized virtual reality world built on top of the Ethereum blockchain. Its developers seek to use blockchain to solve some of the challenges that digital assets have faced. According to its [whitepaper](#), Decentraland consists of a limited quantity of virtual land. Users can purchase parcels of land and other digital assets within Decentraland using MANA (Decentraland's token based on Ethereum's ERC20 standard), with ownership recorded on the blockchain. Unlike Second Life, *"there is no single agent with the power to modify the rules of the software, contents of land, economics of the currency, or prevent others from accessing the world,"* the whitepaper states. Decentraland will give landowners free reign over the use of their land, including to create custom buildings, environments and social experiences, feature and sell user-generated items, and monetize content and applications. It will also include a scripting language to allow users to code in physics, user interactions and other functionalities. Further, to help address fraud concerns and foster confidence in digital asset commerce, Decentraland seeks to use blockchain to track authorship of its users' original digital creations and enable verification of the authenticity and scarcity of virtual property.

One could imagine a time in the not-so-distant future when blockchain is fundamental to [eSports](#). With developers leveraging blockchain, virtual reality motorsports racing teams from around the world could, for instance, be able to customize their cars with cryptographically scarce parts purchased from other users, design and implement their own car liveries and racing suits bearing real-world sponsors' logos, and hire other users as "mechanics" to monitor racing data and tune the setup of their car, all virtually, of course, with digital assets and services paid for using a widely-accepted [eSports cryptocurrency](#).

Legal Considerations

As the virtual becomes more real and monetizable user-generated digital assets become more commonplace, there are many legal issues to consider. For example:

- How will developers' terms of use for their games address ownership of intellectual property rights in user-generated digital items? Will the developers seek to claim ownership or will users be entitled to retain their authorship rights? How will intellectual property rights be tracked, protected and enforced?

- To what extent will game developers be liable to users for technical issues in their code that result in the loss of their users' valuable virtual property? Will disclaimers and limitations of liability in their terms of use hold up against challenges in that context? As blockchain-related software that serve as storage vaults for digital assets continue to proliferate, [it will be interesting to see how industry standards and the existing software liability regime in the United States and other jurisdictions evolve to reflect the critical role of secure software in the "Internet of Value."](#)
- How will user-generated or user-uploaded content be filtered or censored, especially within a decentralized network? To the extent content is stored on the blockchain, could users be liable for illegal content simply by running a full node?
- If a game is running on a network that is immutable and decentralized, to what extent could its developer be liable for IP infringement by user-generated or user-uploaded content within the game? Will it be practicable for them to avail themselves of the protections offered by the Digital Millennium Copyright Act (DMCA) by complying with DMCA takedown notices for copyright-infringing material?
- How will laws relating to lost, mislaid and abandoned personal property, and adverse possession, apply and evolve with respect to virtual property?
- What status will the various types of virtual property and transactions involving them have under the Uniform Commercial Code?
- As virtual worlds become more like the real world and reach international scope, with commerce being conducted on a massive scale, which jurisdiction's laws will apply and how would conflicts of laws be resolved? Will the concept of "code is law" prevail?
- How will developers structure their games and digital property marketplaces to avoid the trading and awarding of virtual assets violating gambling laws, including the panoply of federal and state gambling laws in the United States? To the extent in-game virtual assets are deemed to be things of value (a real possibility, given the market values demonstrated by the cryptocurrency phenomenon), for example, awarding a virtual item to a player that wins a contest of chance that the player has paid in cryptocurrency to participate in could violate gambling laws, even if some skill may also be a factor. Absent carefully established boundaries, developers of open-world and customizable multiplayer online games could find their users engaging in illegal gambling within the game.
- How will know your customer (KYC) and anti-money laundering (AML) laws and regulations be implicated?

- Under what circumstances could a new virtual in-game item created by a user and sold to another user be deemed a security and subject to securities laws and regulations? How can developers structure their games and users structure their in-game activity to avoid creating securities or violating related laws and regulations?

Some light food for thought at the movie theater as you watch the end credits for *Ready Player One* roll.

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