# Minecraft Badges

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## Abstract

The internet pioneers (Web 1.0) unknowingly passed the baton to giant monopolies (Web 2.0) that colonized cyberspace. Lately, there has been a sweeping secular trend away from autocracy, in global politics but also in the governance of consumer tech platforms. Web 2.0 gave internet users the ability to interact with websites and duped them into trading their privacy to build the social media empires that dominate the market today (Facebook, Instagram, Twitter). To preserve their dominance, Web 2.0 platforms are primarily focused on optimizing advertising revenue over sustainability and integrity of the ecosystem. The transition from Web 2.0 to Web 3.0 embraces community ownership, distributes governance rights and facilitates ownership of digital assets. This creator-based economy is competitive because the users and developers of a platform are appropriately compensated for their efforts. Users will dig deep to benefit platforms where they have a stake.

To leverage Web 3.0, users will need a digitally native identity, which would represent the aggregation of one’s credentials. Tokenized skills can be encoded into useful primitives for the system known as “***Badges***”. This will allow individuals to turn effort spent in the online communities of their choosing into identities representative of their lived experience. On this foundation one can build complex social structures, taking advantage of universal gaming platforms such as Minecraft. The impact of such a modernized platform is to enhance the joy of gaming by allowing users and developers to participate in the growth of an ecosystem and giving them ownership over certain in-game assets (Avatars and Badges). Transparency and programmatically enforcing laws and rules via smart contracts ensures a safe and secure ecosystem. We explore the application of this to Minecraft. Upgrading Minecraft paves the way for a reliable reputation system to incentivize developers to build and grow on the Minecraft platform.

## Introduction

Currently, the majority of the developers are using Web 2.0 which has several limitations. A particular limitation being platforms like Facebook and Twitter have previously shut off developer's APIs on a dime. That is, Web 2.0 platform developers are building on top of rented land and developing innovative applications, in the process compromising their privacy and data. In the long run, this stifles innovation and hampers the potential of meaningful engagement. The new trend is for developers to build using Web 3.0 principles and a crypto infrastructure framework. Web 3.0 is a revolution for the benefit of a decentralized internet backed by blockchain technology.

With Web 3.0 savvy internet users are no longer a slave to the attention based digital economy and have begun immersing themselves in the creator economy. Also known as the ownership economy, the goal of the platform is to distribute value to users as a mechanism for growth. Users with skin in the game will show up daily to secure and grow the platform through productive use. This new economy that has been emerging over the last few years bakes in economic ownership and governance rights for users and builders of ecosystems from the genesis. This leads to a more sustainable and inclusive environment.

Blockchain technology which is the backbone of Web 3.0 enables one to keep track of digital property rights. Lawyers are inefficient compilers; blockchains are able to leverage the power of smart contracts to create a new jurisdiction layer. Smart Contracts keep track of terms of a contract, status of a contract and enforce rules autonomously. Users' interaction in the virtual world with other users can be carried out in a secure and safe manner. Blockchains are concerned with finding innovative ways of organizing society.

This lays the foundation for robust social contracts and digital property rights. The Decentralized Finance (DeFi) legal revolution is already underway. The key innovation is the ability to replicate and reinvent today’s financial rails in a way that’s significantly more reliable, transparent and capital efficient. Data and transactions are encrypted making it secure and safe to store gaming artifacts. Decentralized payment systems efficiently handle payments while drastically lowering transaction cost.

Minecraft has an opportunity to embrace the creator economy revolution where the users own their data and are incentivized directly to grow the network. In Web 3.0 users travel with their data across platforms and can build their own reputation systems based on participation. Web 3.0 is about ownership, membership, and voice for the community. The question is how can one build a system with Web 3.0 principles that gives players value for their time?

The rest of this paper, we will provide details on some of the central concepts required to bring Web 3.0 and blockchain gaming ideas to Minecraft. A fundamental concept that should be discussed is “digital identity”. We will introduce the concept of a ***badge***; a moral equivalent of “utility tokens”. These would be minted or traded via the NFT marketplace. We will introduce another major pillar in blockchain gaming – Governance. To this end, for gamers to collaborate with a community in a fair manner, we propose creating a Minecraft decentralized autonomous organization (DAO); one can organize it as a parent DAO and several sub-DAOs, where a service on Minecraft that needs to be delegated can be modeled as a sub-DAO.

## Digital Identity

People are increasingly spending more time in the digital world and they want a high fidelity identity. Non-fungible tokens (NFTs) introduce digital scarcity and tokenize value that their owners can bring to the world. They represent building blocks for peer to peer economies. The social component of this emergent identity will be a NFT Avatar. Players could display their avatars on social media with other NFTs like Crypto Punks. There would need to be some sort of Play-to-Mint process to introduce new Avatars into the system. Many companies and microeconomies have been formed around these PFP (Blockchain profile pics) projects. This is the most interactive way to coordinate a large following.

A NFT Marketplace would need to be created so that players could trade their assets. Immutable X (IMX) is a zero knowledge based scaling solution for developers to create and distribute NFTs at a fraction of the cost of the Ethereum main chain. IMX is also carbon neutral. Underneath the avatar each player would need a crypto wallet to hold or move assets and pay for fees. The wallet needs to manage the private keys so the user can get as close to a Web 2.0 authentication experience while giving access to Web 3.0 assets. Also it’s important for the wallet to be non-custodial and something like a Sequence Wallet would work well. A constructed pseudonymous identity is powerful and will form a core part of the atomic digital identity in the future.

We are entering a new era where users will have sovereignty over their social interactions. Having a digital identity will be critical in emerging markets where many don’t have access to modern financial services. Without this in many countries it’s near impossible to get your head above water and dream beyond basic subsistence. Cryptocurrencies allow anyone to become their own digital nation state. This is necessary for the pursuit of wealth but also in concern of security and privacy. The Canadian government has shown a taste of what is at risk when financial deplatforming can be threatened and applied to “unacceptable” protestors. Custodial financial services allow governments to freeze accounts first, and then sort out who is guilty or innocent later. This has started a new meme online, “There is no freedom without the freedom to transact.” Similar to the crypto slogan, “Not your keys, not your coins.”

## Governance

The other major pillar of Blockchain Gaming is governance rights. Trying to compete in the Web 3.0 space without a significant community presence is transparent and foolish (see Ubisoft and Meta disasters). Ubisoft’s Quartz was penalized for a false start by forgetting to actually involve the community. Their proposal was so out of touch it could likely be performed better with a centralized database. They didn’t provide any meaningful way for the community to get involved, besides adding more items to buy. You can’t tell the community what it wants, even if you are right. Maintaining a dialogue will signal genuine commitment to the community. To collaborate effectively with the community a Minecraft DAO should be created. A portion of the fees from the NFT Marketplace will go to a DAO Treasury. The DAO will have a Parent DAO with the ability to direct money to sub-DAOs through a grants program. An example sub-DAO would be a service DAO where services conducted in Minecraft could be traded. Having votes on all protocol decisions will be chaotic, instead the community should delegate votes to small committees. DAOs benefit when participants are aware of the context behind certain proposals. The committee members will serve for three months at a time. The primary mechanism for on-chain governance will be voting. The Minecraft DAO would use quadratic voting in order to make sure the majority doesn’t drown out strong outlier votes. The DAO will also use a mathematically equivalent system called quadratic funding to determine how to distribute the treasury funds. This is being used with great success with Gitcoin public good grants in the Ethereum ecosystem. Quadratic funding is able to overcome the tragedy of the common problem by appropriately compensating the risk early investors make. It is a great way to create a process for distributing funds that isn’t vulnerable to counterparty risk. Over the first 3-6 months as the DAO is able to prove itself by achieving certain objectives, more control over game design and tokenomics decisions should be delegated to the community from the game developer to the DAO.

A governance token would be airdropped to participants based on how long they have been in the ecosystem and scaled by some engagement scores. These tokens could be used to vote on proposals dealing with game mechanics, in-game assets, in-game services etc. This would reward Minecraft veterans and shift the influence of the early community towards those who know Minecraft the best. There would need to be some sort of inflationary mechanism so that over time the influence gravitated to those who were actively participating in the ecosystem.

## Digital Credentials

The current education system is archaic, ineffective and exclusionary. Does a college graduate have 100% of the competency after graduation but 0% the day before? Evaluating skills becomes an intractable problem in the absence of more granular accomplishments. This leads to a serious misallocation of resources. The incumbents rely on restricting access to induce scarcity and increase the price of admission. The education space is ripe for a digitally native reputation system. There are already many high impact immersive educational projects on Minecraft. To allow users to build their own reputation system, Minecraft can introduce NFT “**Badges**” to the community. These credentials can be layered on top of an NFT avatar and can be earned by demonstrating a skill, as verification of a completed task, or as proof of a new skill learned. Because NFTs are programmable, they offer many more options to developers and users. These users now have access to a reliable digital identity, safe storage of assets, and governance rights over the evolution of this new world. NFT building blocks allow conscious exploration and encourage self reflection beyond simple consumption of products. This is how the collective intelligence locked in emerging markets is galvanized. As more around the globe get internet connectivity, it will be important to liberate users from getting robbed of their attention. No other path will allow someone, regardless of background, to convert effective proof of work into career opportunities faster.

On top of these Badges a new social layer can be built where you can aggregate and display these based on work you have done. This gives those with the drive unfettered access to a competitive wage, without the need to immigrate to a country away from your home. The Badges can go beyond proof of skills, you can layer on privileges. This lets the influencers bootstrap their own community. For the first time fans can actively interact and take ownership in a like minded community. This framework fits in very well for Minecraft, given all content is created by ambitious users. The Badges are important because they are the unit of currency for the creator economy, and allow anyone to build a reputation and become a digital nation. A badge is a fine-grained concept and several of them can be fused together to form a coarse-grained badge. To mark a significant accomplishment, a destructive process combines “n” fine grained badges (fine grained accomplishments) to mint a higher value NFT (coarse grained accomplishment), an avatar. Users could have multiple Avatars attached to their wallet, so they retain the choice of which Avatar is their public face. The Badges become first class citizens in this new world, allowing accumulation of skills. They become a mechanism for differentiating talent in a digital first world. The advent of permission-less networks has the power to create alternative income streams accessible to anyone, anywhere, anytime; increased optionality can reshape the future of work as we know it. How can we take back control of our digital interactions?

## Freedom and Flexibility

Web 2.0 platforms are optimized for advertising revenue over sustainability at the expense of the ecosystem. When so much value is siphoned off at the protocol layer, it can’t be distributed to all of the collaborators to incentivize more activity. Worse, if you don’t carve out some space by upgrading your framework then parasitic secondary markets will quickly aggregate your content. Minecraft recently crossed 1 trillion views on Youtube. Cryptocurrencies promote interoperability and are an aggregator killer because NFTs enable high fidelity peer to peer interactions. An open ecosystem means the ability to leave with all of your assets/followers and go to another platform - which isn’t possible in Web 2.0. Open ecosystems benefit largely through composability. No one needs to reinvent the wheel, solutions can be built on previous discoveries. It is very difficult for an isolated platform to have as many strategic options as a collaborative network.

In a world where interoperability of platforms dominate silos, not considering integrating cryptocurrency rails is negligence. Web 2.0 platforms are not enhancing the product, just amplifying distribution for economic gain. This is where there is room for Web 3.0 to bring a big upgrade. Building in community ownership from the beginning is a fundamental principle. Giving anyone the chance to align their incentives with the group of their choosing allows them to differentiate themselves from the market. Just like how price discovery is necessary in the stock market to determine price, Badges allow skill discovery in a robust way. The Badges also promote efficient gamification of education. Micro-rewards level the playing field for those that are in lower socioeconomic status, because they often don’t have an abundance of time to pursue risky or resource intensive paths.

## Conclusion

One of the great accomplishments of the Web 3.0 movement is inverting the aggregator model. Now users can aggregate all of their economic activity to one address instead of the platform aggregating the user. It’s necessary for creators to be allocated some of the collective value the platform is creating, to promote sustainability. It’s a tragedy that creators are such passive participants to platform decisions concerning their livelihood. Blockchain technologies facilitate stability by creating platforms that are balanced and don’t tilt. The Minecraft DAO will have a significant presence over updating game design, game mechanics, and the delegation of the treasury.

How do you create meaning in virtual worlds? For Minecraft that is leveraging Badges as NFT leggos to enhance user generated content, while encouraging self expression. Not all gaming projects should try and enter the blockchain gaming space just because there is excessive liquidity and attention. The most appropriate games are designed to work from a long term sustainable economic standpoint - with fully open economies. A small number of influencers tangibly benefit from their activity on Web 2.0 platforms and a long tail of collaborators aren’t compensated for their time. Programmable primitives can solve the problem of attribution and allows many more to be aligned with their successes.

This enables a rich design space at the intersection of markets, user generated content, and technology. Minecraft is the ultimate playground for the creator’s journey and adopting a Web 3.0 framework (and infrastructure) seems to advance that through game mechanics and governance mechanisms. Blockchain Gaming has already transformed the lives of millions of users who never even had a bank account before. With games like Axie Infinity that achieve viral growth without a marketing budget, the majority are introduced to the game through a social connection who can explain the game and blockchain basics. Very quickly the new players are managing and moving assets by leveraging the power of DeFi like an internet native. This revolution has proven a great way to teach financial literacy through action and necessity. Some of the most successful platforms in the last decade in gaming were open to creators defining supply, what if the community was given even more responsibility?

# **Badges FAQ**

What is a blockchain?

-A distributed, immutable ledger that facilitates the process of recording transactions and tracking assets in a peer to peer network. An innovative, transparent, and tamper proof way to transfer digital value using an internet native approach.

"Public blockchains are massive multi client databases, where every user is a root user" - Balaji Srinivasan

Blockchains use distributed consensus algorithms (such as Nakamoto Consensus for Bitcoin) to remove counterparty risk.

What is ethereum?

Ethereum is a decentralized blockchain platform that establishes a peer-to-peer network that securely executes and verifies application code, called smart contracts**.** Smart contracts allow participants to transact with each other without a trusted central authority. (Amazon Web Services) It is essentially a global state machine that is permission-less, censorship resistant, and composable.

What is Web 1.0, 2.0, 3.0?

-Web 1.0 was the original internet where information was static and you could essentially only read.

-With the introduction of JavaScript, Web 2.0 systems were more interactive and users now had the ability to read and write. However, users didn’t even own their own data or followers on social networks which led to a lock-in where it was difficult to move across various platforms. Users were tricked into giving up privacy rights to freemium products such as Facebook and Google.

-Web 3.0 is the next iteration of the internet based on blockchain technology. Users can now own their own data, aren’t locked into platforms, and have governance rights. Users now have the ability to read, write, and execute.

What are Non-fungible tokens (NFTs)?

-An NFT is a way of enforcing digital scarcity and creates a system of digital property rights that represents real-world objects like art, music, in-game items and videos. Something fungible is where you can’t differentiate one item from another like a US dollar. The original Mona Lisa could be printed infinite times but there is only one canonical version.

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Are NFTs scams?

-Can a hammer be considered a scam if it doesn’t get the job done? This is a category error, NFTs are digitally native tools that allow for digital scarcity. One should be careful buying and selling NFTs because there are many scams in this space as is common in any open global space.

Are NFTs bad for the environment?

-While it is true that popular blockchains like Bitcoin and Ethereum consume a lot of energy to secure the network(blockchain mining), this question is a bit more complex than it seems. First, it is important to note that renewable energy is much cheaper than fossil fuel alternatives. Many of the mining pools are moving closer to renewable energy sources and success is directly awarded with more efficient energy consumption for your operation. Blockchain miners are directly incentivized to find renewable energy sources. Over half of the mining is currently done using renewable alternatives, and there are many states and countries that offer credits based on this. This has spurred a renewable energy revolution in Bitcoin mining and has many positive benefits outside the space. It is difficult to find impactful programs that incentivize such innovation because of the green premium (Bill Gates) to do so.

<https://assets.ctfassets.net/2d5q1td6cyxq/5mRjc9X5LTXFFihIlTt7QK/e7bcba47217b60423a01a357e036105e/BCEI_White_Paper>

It is also important to understand that consuming energy is not intrinsically bad. It is often very expensive to transport energy (wind, solar, hydro) and this leaves a large amount of this energy to be wasted. Blockchain mining is able to go to these areas and immediately convert this wasted energy into economic units that can be transacted around the world at the speed of light. You can think of this like an energy battery.

The proposal in this paper is carbon neutral because it uses a scaling solution (Immutable X) based on Zero Knowledge proofs to batch and verify transactions before adding them to Ethereum. These scaling solutions (L2 or sidechains) generally adopt the security guarantees of the main chain (Ethereum in this case) but by definition increase the attack vector space.

What is a decentralized autonomous organization (DAO)?

A decentralized autonomous organization, is a community-led entity without a central authority at its head. It generally has a much more horizontal organizational structure, compared to corporations which have vertical organizational structures. It is generally run using smart contracts to autonomously enforce rules and delegate privileges/responsibilities.



Stunning admission by ex-Twitter CEO

**Sources/Additional Reading**

<https://influencermarketinghub.com/creator-earnings-benchmark-report/>

Quadratic Payments: A Primer

<https://vitalik.ca/general/2019/12/07/quadratic.html>

Jesse Walden

<https://variant.fund/writing/the-ownership-economy-crypto-and-consumer-software>

Li Jin

https://li-jin.co/2019/10/22/the-passion-economy-and-the-future-of-work

Messari

https://messari.io/article/blockchains-changing-the-game