

Blockchain Community Networks Leading the Way towards Web 3.0.

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Abstract

A third generation of the Internet (Web 3.0), developed using *Blockchain* style technology, offers the global community powerful tools for ending its current subservience to a handful of exploitative and intrusive Web 2.0 platforms by realigning the World Wide Web back to its original open standards. In recent years, *data* has become the new *oil*, with centralised apps from Google, Amazon and Facebook now generally dominating the average user's digital experience thanks to the collection, processing, and sale of their data. Fortunately, a window of opportunity is opening for the possible widespread adoption of a new Internet model, inspired by *blockchain* technology, that could return the control of digital data back to its billions of users. "Blockchain technology is the name originally given to the design underpinning the operation of the digital currency Bitcoin" (Ammous 2019, 239) whose central operational feature is verification. "Transaction validity is not established by any authority, but by the consensus of the network members" (Ammous 2019, 243) and thanks to early-adopter communities of this technology, the utility and value of this form of electronic cash is becoming widely recognized. Blockchain and derivative technologies could usher in a new generation of the Web (Web 3.0) that "will engender a new global digital economy, creating new business models and markets to go with them, busting platform monopolies like Google and Facebook, and giving rise to vast levels of bottom-up innovation" (Wood, 2018). This essay will analyse the value proposition of a blockchain-inspired Web 3.0 compared to the Internet's current version, based upon the five original *open web standards* (World Wide Web Foundation) that were put forward in 1994 by the creator of the World Wide Web, Tim Berners Lee. In order to reject a global technocratic system of control, collective and connective action is needed to create a new era of the World

Wide Web based on *decentralisation, non-discrimination, bottom-up design, universality, and consensus.*

The World Wide Web was designed to be a decentralized communication system for everybody to freely create and access information, and despite providing extremely valuable services to the world, a select few big-tech companies now exercise an unhealthy amount of control over human communication, and as a result, basic human perception, and behaviour as well. For this reason, a relatively small community of software developers dispersed among a variety of projects yet motivated by the common goal of creating a self-standing Internet that does not rely on centralized web servers, are applying Bitcoin's decentralised computer-processing model to develop applications capable of correcting this dangerous concentration of power. Such communities of programmers have come into being through "bonds of sentiment" and their actions are being "mobilized by technology as a conduit of connection" resulting in "windows of opportunity for social change to emerge" (Papacharissi & Trevey 2018, 88). Nowadays, the vast majority of people access information via smartphones (Pew Research Center, 2021) and governmental regulatory authorities have proven themselves both powerless at limiting big tech companies' dominance over the flow of information as well as stopping ensuing anti-competitive business practices. The recent introduction of the *News Media and Digital Platforms Mandatory Bargaining Code*, brought about by the [Australian Competition and Consumer Commission](#), arguably represents the world's best idea to at least address this issue from a regulatory approach so far. Many other major nations are haphazardly attempting to pass legislation that would impose greater oversight upon these big tech companies however they are all failing to address the root cause of the problem- centralisation. Network-based collective action by diverse communities of software developers to not only create, but also incentivise widespread adoption of decentralised digital platforms, appears to be the only practical way to mitigate humanity's dependence on

a few tech companies who have amassed uncontrollable economic and political power.

Non-discrimination is the second open web standard that has been undermined in recent years, and one which a Blockchain style internet structure could more effectively provide. Because just five major digital service providers (Google, Facebook, Apple, Microsoft, and Amazon) essentially control the entire online environment, they therefore control free speech and actively co-operate to thwart any type of collective action which could challenge their combined monopoly of power. Although “unrestricted free speech may lead us towards error, rather than truth” (Fox & Saunders 2020, 15), persistent viewpoint-based censorship, particularly on Facebook and Twitter during the year 2020, led to large communities forming around shared ideas on alternative social media sites. A decentralized social media platform would enable its community of users to set, moderate and enforce varying standards of communication, creating both an environment, and culture in which people could more successfully engage with viewpoints contrary to their own. Furthermore, this new peer2peer hosted model would protect the community from a similar fate to the 13 million *Parler* users whose mobile app was abruptly shut down on January 10, 2021 despite being the most downloaded mobile app in the world at that time (Thiel et al. 2021, 13). Irrespective of the motives, the fact that *Parler* “was removed from the Google Play store (Jan. 8) and the Apple App Store (Jan. 9), and lost its web hosting on Amazon Web Services (Jan. 10)” (Thiel et al. 2021, 2) essentially allows for any public interest conversation to be engineered while discriminating against “certain opinions that normal people have” (Pool, 2021). This type of discrimination is clearly a system failure, and a more traceable, immutable, and secure system of communication built with blockchain technology, would distribute the control of free speech equally among all users. This offers the world a fairer digital framework for expression than the current gatekeeper model, arbitrarily employed by centralised big tech companies.

Billions of people’s lives are being impacted by the decisions of a small number of software engineers in Silicon Valley, meaning that the third original open web

standard of *bottom up design* is not being respected. Fortunately, several of the blockchain-inspired projects that have been receiving the most amount of attention and investment in recent months are those which are specifically focused on designing a *bottom up* infrastructure for a Web 3.0. As highlighted in the previous paragraph, by consistently colluding to deny the entry of competing companies into their market space, as well as by “blocking competition while favoring its own products and services” (Hinchcliffe 2020), big tech companies stifle innovation and leave consumers without options. Facebook is currently entangled in a colossal antitrust lawsuit against 46 US States, for using “its monopoly power to crush smaller rivals and snuff out competition, all at the expense of everyday users” (Braff 2020). Governments may issue more multi-billion-dollar fines or even attempt to break up big tech monopolies, but the best solution to this unhealthy *top-down* control is a new generation of the internet in which *bottom up* design forms an integral part. The co-founder of the world’s second largest open source blockchain called Ethereum, Gavin Wood, defined Web 3.0 as “an inclusive set of protocols to provide building blocks for application makers” (Wood, 2018) and revolutionary projects such as *Holochain* will soon give individual programmers the ability “to quickly build fully P2P web applications designed to operate on the scale of Twitter or Facebook with no centralized data centers or infrastructure” (Brock et al. 2018, 5). The fact that *Holochain*, and similar projects, have attracted billions of new investment dollars this year alone, proves that there is a rapidly growing community of individuals who reject the current top-down Web 2.0 structure and have identified a window, and vehicle for change.

Universality is the next open web standard that would be greatly improved by the global adoption of an Internet that integrates different technologies into a single economy, or movement. Using the current Web 2.0 internet model, people cannot communicate with their friends online without using a platform like Facebook to relay the message, nor can they make payments without involving a financial institution as an intermediary. Bitcoin is disrupting the global financial system because it removes

this middleman and essentially allows the individual to become their own bank, regardless of their location, cultural and political beliefs etc. When explaining his decision not to patent the code behind the World Wide Web, Berners-Lee affirmed that “you can’t propose that something be a universal space and at the same time keep control of it” (Fleming 2019). Bitcoin is an excellent example of a universal project because it relies on a global community of traders with a shared sentiment, who operate freely on an online network without any authority or institutional interference. It has never been forced on anyone nor advertised yet in just over a decade, it has grown into a digital asset with a combined value of currently over one trillion US dollars. In 1996, John Perry Barlow published the iconic *Declaration of the Independence of Cyberspace* in which he told the “Governments of the Industrial World (...) to leave us alone. You are not welcome among us. You have no sovereignty where we gather” (Cohen-Almagor 2011, 2). This exact same sentiment can be observed in the recent widespread adoption of a payment method and store of value that empowers the individual with greater financial autonomy. The use of similar blockchain technology to browse and communicate online, completely free from the control of current Web 2.0 platforms, promises to become a Bitcoin-style disruption to the current version of the Internet.

Consensus is the fifth original open web standard, and one which highlighted the need for all Web users to agree on transparent and participatory standards for online engagement, far different than the forced choices that Web 2.0 platforms currently present to their users in the form of frequently updated terms of use agreements. Decentralised distributed networks known as Blockchains however, provide their users with transparent and immutable consensus protocols and algorithms that are specifically designed to find common agreements among unknown peers that strengthen the security and integrity of the entire network (Patel, 2020). Digital platforms now intermediate so many of society’s basic daily interactions and activities, that reluctantly “clicking ok to continue” in the absence of any other practical alternative, forces web users to relinquish control over their data and privacy (Snowden 2021). All social media platform’s revenue and power has come from using people’s data by imposing an unfair “consensus mechanism (that) undermines

the ability of people to reach a new alternative consensus” (Larimer 2020). People overwhelmingly value privacy because it gives them agency and is also the cornerstone to many fundamental human rights. This was evident when *WhatsApp* announced they would start sharing data with parent company Facebook, in a change to their terms of use on January 15 of this year. Tens of millions of users began switching to rival chat apps such as Telegram which became the world’s most downloaded app that month (Chan 2021). However, the communities that have formed around this shared sentiment on *Telegram*, *Signal* and other chat apps may, in theory face similar forced choices on these platforms in the future. A blockchain-style chat app, such as the recently released *Elemental Chat* which operates on a crowd-hosting network, would be a better model for governing the consensus systems of the World Wide Web while minimizing the opportunity for digital platforms to profit at the expense of the community.

The global community would greatly benefit from the widespread adoption of a new generation of the Internet (Web 3.0) that can still provide all the popular and useful applications available today (Web 2.0), but via structurally different coding systems that engender values such as trust, self-governance and mass-collaboration. By revisiting the original open web standards, that were created by an international community led by the inventor of the World Wide Web, this essay has argued that a new generation of the Internet, inspired by blockchain technology, is sorely needed to redistribute the power of this amazing communication system back to its individual users and grass roots communities. This essay has briefly discussed the benefits of a Bitcoin-inspired disruption to the Web’s current model specifically in terms of *decentralisation*, *non-discrimination*, *bottom-up design*, *universality* and *consensus*. Each of these original open web standards were designed to safeguard one of humanity’s greatest inventions from ever falling into the wrong hands, something which appears to have already happened to a large degree. Humanity now has an amazing window of opportunity to reject the current top down tyrannical form of global governance, by using new technological tools to create a more anarchistic *bottom up* style system of communicating and collaborating with one another.

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