



Liquid Democracy and Emerging Governance Models



ConsenSys

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In the midst of a hectic presidential election season here in the USA, there is an increasing sense of political tension. When candidates are not inspiring, voters from all demographics—old, young, conservative, liberal—feel forced to pick the “lesser of two evils.” The two party system forces us to adhere to a predetermined platform that gives neither candidates nor voters the flexibility they desire. Debates are structured for politicians to showcase their personalities rather than engage in political discussions, transforming the presidential race into a popularity contest. Policymakers in congress are passing bills in accordance with their lobbyists and not the voters they were hired to represent, while contemporary media ignores this lawmaking and prioritizes individual candidates themselves. The system is broken, yet we continue to fight amongst ourselves about whom we want to run it. I’d like to take a step back and examine why we chose this governance structure more than 200 years ago and whether it is still an effective way to govern in our globally interconnected world.

A Representative Democracy

Democracies today were designed so that citizens could actively participate in the political process free from censorship and oppression. In the case of the United States, there was a strong resentment towards tyranny and overbearing governments following the American Revolution. The US Constitution created checks and balances on power and people elected representatives they felt would best reflect their own interests in the capitol. In a time before modern technology, before the Internet, telephones, or commercial electricity, this made sense. Elected officials had to travel for days by horse to reach Washington and vote on laws. There was no practical way every citizen wishing to participate in government could simultaneously travel to the



years. It would have been too much work to hold elections more frequently with the technology available at the time. In the year 1800 this was a very efficient system; in year 2000, however, would you say the same?

The Internet

Worldwide instantaneous communication is something that humans have never experienced before. The printing press was one of the biggest inventions of the past millennium because it was a catalyst for widespread literacy and allowed information to travel faster than ever before. Books became accessible to average people who previously did not have the resources to learn to read. Over time, as literacy increased, the printing press helped reform religion and proliferate the use of double entry bookkeeping, a vital component in the development of capitalism and in the business world today.

The Internet is a step forward for humanity on a similar, if not larger, magnitude. We now have a global network of interconnected devices able to send and receive information instantaneously. 30 years ago the general public had no understanding of the Internet; email was the simplest and most logical use case. Fast forward to today and we see that our global economic infrastructure has been completely changed by multi-billion dollar corporations like Google, Facebook, Amazon, and more, all grown from business models reliant on the new internet fad.

This is only the tip of the iceberg of the potential of global instant communication. We are shifting to an Internet based economy, yet our entire banking, healthcare, insurance, and even governance infrastructures are still based on slow legacy systems that have yet to catch up.

Blockchains are a recent technological breakthrough with the ability to add an important layer of trust on the Internet. First introduced with the invention of Bitcoin, a blockchain is an immutable public ledger that requires no central servers but rather is stored and secured by contributors anywhere in the world with an incentivized mechanism for coming to consensus. Bitcoin was the first use of the blockchain; a secure public ledger is a great way to maintain an “internet cash” system without a central authority. But like email in the early Internet days, Bitcoin is just a basic implementation of a blockchain. The potential of what is now being referred to as the “trustless internet” is enormous. Ethereum is a new generation blockchain-based

uses that cryptographic security for any decentralized app that a user can create, rather than limiting it to a simple payment system. This blockchain can perform many more organizational functions than just tracking account balances, which brings me back to the main focus: could the internet and blockchain technology be used to create a better governing system?

Liquid Democracy

Liquid democracy, also known as delegative democracy, is not a brand new idea, but the technological infrastructure necessary to build it hasn't existed until very recently. It is a type of electronic democracy that combines direct democracy with representative democracy to create a much more fluid and transparent governance structure. Registered citizens can vote on bills directly to ensure their voices are heard if they feel informed or passionate about a certain issue. For the lazier or less aware, they can delegate their vote on the issue to anyone they desire, for example a professional in that particular field. This professional has as many votes as were delegated to him or her, and can either vote on laws themselves or delegate them further to another trusted source with proportional weight. The key to keeping delegates honest is that at any point in time a citizen can retract their vote away from the representative back for themselves. For example, if a professional changes their opinion to one their constituents disagree with, or becomes influenced by money, corporations or lobbyists, the original voters can take their votes back if they feel it is in their best interest. This makes delegates much more accountable for their actions than representatives in the current system. Furthermore, voters can distribute their votes on different issues to various people as they see best fit. For example, you can delegate your vote on climate change issues to your favorite environmental scientist, even if you don't trust him or her enacting fiscal policy. You can then delegate your fiscal policy vote to your friend who is a trusted economist, who may further delegate your vote to a finance professional. Meanwhile you can keep your vote on social issues to yourself if you have strong opinions and want to be directly in control of your vote.

A system like this addresses the uninformed voter issue that a direct democracy creates by allowing voters to allot their votes to experts in their fields. It also addresses the corruption issues of a representative democracy because citizens can rescind their vote from someone instantly, forcing delegates to vote in the best interest of their constituents. It is the best of both worlds that truly gives the power of influence to the voters. By removing lobbyists this system could help take the money and corruption out of politics and give every citizen an equal say. Delegates accepting money from

corporations for influence will lose their votes once people notice. It will be trivial to check how your delegate used your vote and, if they are found to be working with lobbyists, the public has the ability to quickly remove their power.

In a liquid democracy system proposed bills would likely be simpler, more straightforward and less wasteful than our laws today. The lawmaking process could be implemented more transparently such that more people can carefully propose and review the wording in each bill. Laws passed by Congress today usually have hundreds of pages of “pork barrel legislation” that have absolutely nothing to do with the bill’s topic but can still allocate millions of dollars. These are not relevant to the bill and usually not debated, they are only included to win votes from individual congressmen who stand to benefit from the “pork barrel” localized legislation. This system does not accurately represent the will of the people and has perpetuated corruption for far too long. Under liquid democracy, bills would be written for and scrutinized by the public. This could help create more concise, specific laws with fewer caveats and loopholes by limiting redundancy and removing off topic legislation.

Why Ethereum?

Ethereum has the ability to be the backbone of a trustless, decentralized Internet-like protocol. Historically, liquid democracy has been impossible to implement on a large scale because it is very hard to ensure one person is not voting multiple times. This is called a Sybil attack, where a user can create many pseudonymous identities, which would be detrimental for the creation of a fair political system. Imagine if liquid democracy were implemented through Facebook, making fake accounts to cheat the system would be trivial.

On Ethereum, however, some of the best programmers in the world are currently designing cryptographically secure identity and reputation systems. While keeping users’ personal information safe and without infringing on privacy, it is possible to build a decentralized voting protocol that can resist Sybil attacks by requiring some basic verification and reputation for each user while still protecting their pseudo-anonymous identity.

An Ethereum based voting system would have the advantage of provably fair vote counts and nearly instant resolution. There will be no electoral college, it will be much harder to fake ballots, and there is no tedious vote counting where candidates could blame human error and demand a recount. All votes will be visible and traceable on the blockchain and it would be trivial to count them.

Viability and Time Frame

How could a system like this ever be organized? There are many issues, including deciding who gets to propose bills that are voted on, and how everyone's voice can be heard. Assuming the Ethereum network handles identity, a voting model and platform similar to Reddit's could be a viable user interface. The algorithm for ranking posts may have to be altered but the general idea remains the same. Users have upvotes and downvotes for proposed legislation and also for comments debating the issue. Different sections can be used to debate and vote on different areas of law, fiscal policy, social policy, environmental protection, etc. Like on Reddit, the general popular opinion will rise to the top, and those who are able to best articulate and explain their point of view will garner the most attention. The community can come to a consensus on the exact wording of the law in question that is best for the community, perhaps with a permissioned and peer-reviewed editing system similar to Wikipedia's. A "motion to vote on issue" debate could begin and if there is enough support that particular law could be moved to a popular vote.

Basic moderation could be handled by bots the public controls and dictates. However, there is no denying some executive government roles may need to be done by humans. These jobs can be appointed and overseen by the public, possibly similar to how forum moderators are picked today on many websites, but with more accountability thanks to an Ethereum-based reputation system. There are still many blanks to fill about the operational specifics of moderation, funding, and enforcement, but these can be fine tuned over time.

ConsenSys is currently developing a next generation governance apparatus on Ethereum called BoardRoom, aimed at creating a blockchain based decision making platform for all types of organizations. This suite of governance applications contains functionality for electing and removing board members, budget allocation, transparent accounting, asset management, shareholder voting, and more. While originally envisioned for smaller organizations and private corporations, there is no reason this framework cannot be adapted to a larger scale for public governance.

It's nice to dream of a fair, transparent and corruption-free government, yet this is not something that can happen over night. Government restructuring of this caliber is essentially full on revolution. Some may call it anarchism, some may call it socialism, and although these are very conflicting ideologies, liquid democracy encompasses a little bit of both. I'm not confident this could happen in my lifetime because we have

such a rigid political structure in place that has persisted for hundreds of years. It doesn't seem possible the representatives we elect will vote for a law to get rid of representatives; change will have to occur more gradually. Furthermore, a system like this doesn't have to restrain itself to national boundaries—it could potentially grow from a small local community into a form of international law built by self-governing internet activists. Estonia is already experimenting with digital governance in their “e-Estonia” project, where they have successfully created electronic solutions for voting, taxation, and more, letting citizens interact with the state online. Recently this led to Estonia's “e-Residency” campaign, which allows anyone in the world to register for an online ID and electronic residency with the small nation, giving the rest of the globe access to financial services previously only available to Estonians. This is a huge step towards establishing a country without borders, and it's only a matter of time before decentralized governance tools similar to this are implemented on the blockchain.

The support Bernie Sanders' 2016 presidential campaign received highlights the growing disapproval of conventional politicians and corporate lobbying. People are aware the system is broken; they know money buys politicians and want to fix it but nobody knows quite how. This is not a change I see happening from the top down but rather from the bottom up. There will not be a presidential candidate endorsing liquid democracy because these forms of government fundamentally conflict, and even if there were, Congress would not agree to pass a law that would terminate their jobs. Rather, the changes will likely start with businesses and other smaller organizations using decentralized governance models internally. If the platform proves successful for corporations, perhaps some nations will consider using the same model for public governance. An alternative approach could be using this liquid democracy framework for international law making, letting it organically grow until it's large enough that people begin adhering to this global self-governing system of law. If enough people are voting on and following this international decentralized platform, it's only a matter of time before individual states can either fight the new system or join it.

The world is just beginning to realize the potential benefits of an interconnected global network of machines. While businesses have to quickly conform to the modern Internet based economy, there is less incentive for governments and public service providers to adopt modern technologies. However, if society can implement an improved governance model using the Internet and Blockchain, we can potentially do away with representatives, lobbyists, corruption, and other inefficiencies plaguing our political system.

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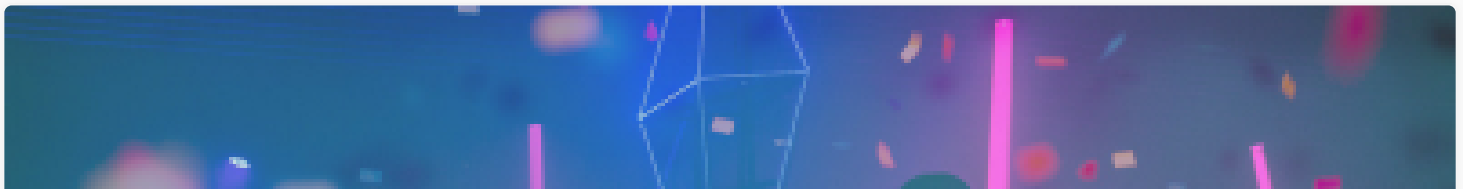


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