Rawrshak Governance Exploration

How The Quickly Evolving DAO Landscape Requires Both A Roadmap and Flexibility

Why Governance?

Since 2017, but especially over the past year or two in 2020 and 2021, the crypto industry has seen an explosion in user adoption and the number of projects building on public blockchain infrastructure. While the crypto boom of 2017 and early 2018 was characterized by ICOs and hefty promises made in whitepapers, the adoption seen in the industry this time around is backed by technology that early adopters are actually using to solve problems that have been left unaddressed by other industries. There have been explosions in Decentralized Apps (Dapps) in the Decentralized Finance (DeFi), Non-Fungible Token (NFT), Metaverse, and other crypto sectors. These projects are organized and legally structured in different ways including being backed by corporations, run by foundations, administered by pseudonymous teams, and in a relatively new development organized into Decentralized Autonomous Organizations (DAOs).

However, no matter the structure of the project, there is a need to align its various stakeholders (e.g. founding team, investors, advisors, community) around the vision and roadmap of the project, organize efforts and labor within the community, respond to changes in broader environment, respond to changes in the needs of the project's community, and fund and explore new ideas. This is the realm of governance and it cannot be avoided. Whenever large groups of people come together for a set of common goals there needs to be a set of agreed upon rules and procedures for deciding what happens, who is responsible for doing it, and when the status quo should change. A project without a governance model is de facto choosing centralized governance. Decisions must be made by someone. Without a model for the community to get involved in the decision making process, the development team, investors, advisors, aka 'Insiders', will be making the calls.

Just as the success of a project can in part be determined by the strength of its underlying technology, human capital, network effects, and IP, a project's governance model can have a major influence on its success. This will be explored further in later sections with a few case studies of real-world governance debacles.

In conclusion, governance is needed to align the project's stakeholders on the vision and roadmap, fund and explore new ideas, decide whether or not to implement protocol upgrades, change protocol parameters (e.g. fees collected and sent to a treasury), respond to changes (competitive, regulatory, etc) in the broader landscape, and endow individuals or teams with the power to undertake labors on behalf of the project.

Laying the Foundation & Building Context

Voting Systems, Voting Mechanics, and Funding

Voting Systems

Before diving directly into the recommendation for Rawrshak's governance model or exploring extant governance models used by major crypto projects, it will be useful to build context around one of the most important parts of governance, voting and decision making. This section won't cover every voting system ever invented or even every system used by crypto projects today. However, it is meant to illustrate the diversity of thought in this space, show how DAOs are innovating to solve problems specific to blockchain governance, and demonstrate that DAOs have no need to be chained to the organization and decision making paradigms of the past. There is nothing but open road to explore new ways of doing things.

Token-Based Voting

With that said, this next section which dives into several different voting schemes is scoped to token-based voting. Token-based voting or token voting is based on the idea that the amount of a project's tokens that an individual or an entity holds directly determines that individual's or entity's voting power. The more tokens one has relative to the circulating supply, the more voting power one has. In the simplest of examples, if an individual owns 10% of the circulating supply of a project's token, they would hold 10% of the voting power in the project. It should be noted that many projects allow users to increase their voting power beyond the proportion of tokens they hold by staking, locking up tokens for a period of time, or other methods. The example given above is just meant to illustrate the basic principle that more tokens owned/controlled leads to more voting power and less tokens owned/controlled leads to less voting power. This is akin to shareholder voting in a corporation where the more shares controlled leads to more voting power. It is in contrast to most voting in politics where the rule of 1 person 1 vote applies.

The voting systems below are all voting systems that do or can exist with the token-based voting paradigm. Some of them have actually been implemented on-chain in DAOs while some are more experimental. Yet, others have been implemented in the physical world and have been theorized to have value for voting in blockchain projects.

Quadratic Voting

In this system everyone is given a set number of voting credits to use for voting on a set number of issues or proposals. Unlike traditional voting systems where you can usually only place 1 vote per proposal, in quadratic voting a single person can place more than 1 vote for a single issue.

For example, when voting for President in a country like the US, each person can only place 1 vote. You cannot fill in the bubble next to your chosen candidate's name and place a "x2" next to it so that your single vote counts for 2 votes

However, with quadratic voting each individual may be given a set of 100 voting credits for example to distribute amongst 10 issues to vote on. A single vote on all 10 issues would cost 10

credits. However, placing more than 1 vote on a single issue costs exponentially more credits for each additional vote placed.

For example, placing 2 votes on a single issue costs 4 credits as 2 squared is 4. Placing 3 votes on a single issue costs 9 credits. Placing 4 votes on an issue costs 16 credits and so on up to 10 votes on a single issue which would cost all of an individual's voting credits, 100 in total.

So quadratic voting allows individuals to express the degree to which they care about a particular issue in relation to other issues also being voted on. However, it is not applicable for isolated issues for which there is only 1 proposal to be voted on.

Advantages

- Allows voters to express the degree of importance a particular candidate, proposal, or issues has for them

Disadvantages

- Not applicable for isolated decisions outside of a set of multiple decisions

Where Implemented

- Experiment by Colorado House of Representatives Democratic Caucus in 2019
- RadicalXChange in Taipei
- The government-run e-democracy platform called "Join" in Taiwan
- The political party, Volt Germany, used quadratic voting at a party congress to vote on the most important values in its manifesto

Pairwise Voting/Condorcet Method/Ranked Choice

In this system an individual's preference for every option is weighed against all other options. For example, if there are 4 options being voted on in a proposal (options A, B, C, and D) then then the results of A vs B, A vs C, A vs D, B vs C, B vs D, and C vs D are all calculated. This can be done with an explicit vote for each combination or through a ranked choice system where users select their preferences for the given options in order.

The option that beats all other options is called the Condorcet winner. If option A in the example above beats B, C, and D according to ranked choice it would be the Condorcet winner.

However, there is not always a Condorcet winner and there may be times when one option always beats another option as in the game of rock, paper, scissors where 1 of the options always beats an option but loses to another one. This is called the Condorcet paradox. There is however always a "Smith Set" which is the smallest group of options that beats all other options. When there is no Condorcet winner but a Smith set various methods exist to choose a winner.

Advantages

- Allows voters to express their preferences amongst a set of multiple options

Disadvantages

- Does not always lead to a conclusive winner in which case additional rounds of voting may be needed

Where Implemented

- Rank-choice voting is growing in popularity and has been implemented at various election levels from local to presidential just within the United States. For example, in the 2020 Democratic Primaries, Alaska, Wyoming, Hawaii, and Kansas all used ranked choice voting

Liquid Democracy

This is a delegated voting system with a 1 vote per person model where every person can vote on issues directly or delegate their vote to someone else. Individuals who have had votes delegated to them can again delegate their accumulated voting power to another individual. This allows individuals to vote directly on issues about which they feel strongly or about which they have expertise but delegate their vote to someone they trust if they don't feel strongly or have deep knowledge of the area being voted on. It is a mix of direct and representative democracy

Advantages

- Voters can delegate their vote to someone they trust if they don't feel strongly or knowledgeable about a particular issue

Disadvantages

- Can potentially lead to a massive centralization of voting power into a few hands if large swaths of voters decide to delegate instead of actually vote

Where implemented

- Google experiment with an internal social network called "Google Votes" for selecting meal options
- German Pirate Party
- Council of Friesland - Friesland, Germany

Futarchy/Prediction Market-based Voting

In this system a desired and objectively measurable outcome is defined. Two competing proposals are put forth each of which aims to lead to the desired outcome through the implementation of the proposal. Each proposal is tokenized and the market is allowed to trade the tokenized proposals. Voters vote by holding tokens for the proposal they believe will succeed in leading to the desired outcome.

For example, the desired outcome could be to increase the number of monthly active users of Rawrshak by 50% within 2 years. There would be several proposals each with a plan for

increasing the MAU base. If most voters believe proposal A is more likely to lead to the desired outcome than proposal B then there will be a higher demand for token A which will lead to a higher price of token A than token B.

The tokens are allowed to trade for a limited amount of time and the token with the higher price after ‘x’ amount of time is chosen to be implemented. If the winning proposal actually results in the desired outcome then everyone who held the tokens for that proposal gets a payout.

Advantages

- Voters who select successful proposals by buying the proposal’s token get rewarded in the payout
- Voters who select unsuccessful proposals are effectively punished by holding worthless tokens
- A financial incentive is created to choose proposals that an individual or entity believes will actually work, helping to eliminate strategic voting

Disadvantages

- Complex with little history of actual implementation
- The system can be potentially be gamed, manipulated, and arbitraged

Where implemented

- No known examples as of writing

Quorum-based Voting

In this system, a certain % of voting power, as defined by % of circulating token supply, has to vote before a proposal can be passed. The quorum % can be applied to voting in general or votes in favor. For example, a 60% quorum for passing a proposal would mean that wallets holding 60% of the circulating token supply need to have voted either yes or no in order for a proposal to be eligible to pass. If at least 60% of voting power doesn’t vote (yes and no votes combined) then the proposal automatically fails

However, if the quorum is applied to votes in favor then it would look something like this. If the quorum level is 40% votes in favor, then if the proposal gets at least 40% of the total voting power of circulating coins to vote yes then the proposal is eligible to be passed. If in the end there are more no votes than yes votes the proposal can still fail but the proposal would fail automatically due to not having reached quorum. This system is meant to prevent proposals that only benefit the few or malicious proposals from passing.

In reality, however, it can simply make it incredibly hard to pass anything depending on the quorum constraints chosen. This can lead to having to hunt down whales and getting them involved to make any changes to a protocol. This can also lead to tactical voting where for example voters simply don’t vote if they want a proposal to fail because not voting prevents

quorum. If they were to vote no then then they will have voted which would a vote counting towards quorum

Advantages

- Guards against unpopular or malicious proposals passing as generally a large % of the circulating token supply needs to vote or vote in favor for a proposal to eligible to pass
- Ensures passing proposals have large backing by the community

Disadvantages

- Can slow down innovation and development by making it difficult for proposals to pass
- Relies on on an engaged community to get proposals to pass even though blockchain voter turnout is typically low
- Can lead to having to chase whales in order to get enough votes
- Can lead to strategic voting where individuals or entities abstain from voting in order to block quorum instead of voting “No” which actually helps meet quorum

Where implemented

- Uniswap
- Curve
- Compound
- Kleros

Moloch/Permissioned Relative Majority voting

With this system, there is no quorum and the decision whether a proposal is passed is solely based on looking at the number of votes in favor vs the number of votes opposing and picking the option with the highest total count. This means that a proposal could have 1 vote in favor and 0 votes opposing and be passed.

This voting system requires a very active community to spot and aggressively vote against malicious proposals because just 1 vote in favor can lead to something being passed if nobody votes against it. In its favor however is not being bogged down with attempting to reach quorum and good proposals automatically getting rejected because quorum couldn’t be reached

Advantages

- Proposals can pass easily as a certain percentage of the circulating supply of tokens are not required to vote in order for a vote to be valid
- The only constraint on speed is the length of the voting window and any intentional delays between the end of voting implementation of the proposal

Disadvantages

- Unpopular or malicious proposals can be passed with a single vote and/or 1 vote majority if the community is not actively watching the proposals up for voting

Where implemented

- MakerDAO
- Decentraland
- LexDAO
- Raid Guild

Conviction Voting

In this system, voters stake their tokens on proposals and voting power for an individual's tokens increases over time the longer their tokens are staked on a particular proposal. This can help mitigate against attackers or individuals who acquire a large portion of tokens but are only interested in short-term profit and do not care about the long-term viability of the project. Large amounts of tokens staked for a short period of time can be outweighed by smaller numbers of tokens from long-term stakeholders of the project who have staked their tokens on beneficial proposals over a long period of time.

Voters can split their tokens among several options and each will option will accumulate voting power when staked in accordance with the proportion of the voter's allocation. For example, if a proposal has 4 options (A, B, C, and D), a voter could split their tokens as such A - 50%, B - 10%, C - 20%, and D - 20%. All the options would accrue voting power but at different rates and/or in different amounts according to how many tokens were allocated to each proposal option.

Moreover, voters can change their voting preferences and the voting power for a particular proposal option would decay at a according to a half-life formula. Using the example above, if a voter decided to remove their staked tokens from D such that D now has 0% tokens and move them to C such that C now has 40% of the voter's tokens allocated to it, then D's accumulated voted power doesn't go to 0 immediately. It slowly decays to 0. Likewise the additional voting power from the tokens newly allocated to C would rise over time.

Advantages
- Allows voters to express their preferences amongst multiple options
- Factors in the amount of time a voter has been involved in the community and how long they have been expressing their preference
- The time-delay and half-life formula prevent an individual or entity who has recently acquired a large sum of tokens and may only be after short-term profit from having an outsized influence on the vote

Disadvantages
- Not applicable to binary decisions
- Somewhat complex

Where Implemented
- 1Hive
- Panvala

- Commons Stack

Non-Token Based Voting

As can be seen from the exploration of just a few of the kinds of voting systems that can be built on top of token voting, there is a lot of potential and creativity in the space. While token-based voting is the most popular paradigm amongst crypto projects and DAOs thus far, it is not the only paradigm under consideration. Reputation-based voting and voting based on Decentralized Identity (DID) systems are also being explored. However, the tech and tools for these are not as developed as those for token voting at the time of writing. That leaves these systems in the experimental realm for now. However, as blockchain adoption increases it is expected that these systems will surely play a larger role as they solve some of the issues withl token voting.

Reputation-based Voting

This system tries to disentangle governance rights and economic rights by creating a two token system. One token gives users the right to engage in governance and the other token is used for the economic activities of the protocol.

In a system like this reputation can take the form of a non-transferable token which is given to users by the protocol but cannot be sold or transferred to another wallet. Technically a user can sell access to the wallet off-chain but this cannot be prevented. Nearly everything in blockchain has an off-chain attack vector without Decentralized Digital Identity.

The reputation, however, would give each wallet the same voting power as any other wallet at least to start with. Wallets shown to be highly engaged in the community, that vote on proposals regularly, propose proposals that get adopted, etc can accrue more reputation increasing the voting power of the wallet. On the other hand malicious wallets can have reputation slashed or completely taken away.

Many NFT projects are implementing a kind of primitive form reputation via their Discord servers. Users can acquire reputation, community points, etc by engaging highly in the project's discord and adhering to the rules. This entitles the user to certain privileges like exclusive NFT drops, entrance to exclusive sub-groups within the project's community etc. Likewise inappropriate behavior can be punished. The user doesn't own the reputation or community points they are accruing and the Discord admins have exclusive rights to punish users in the event of infractions. Eventually this right to bestow and take away "reputation" will hopefully move to the DAO as these projects mature.

Identity-based Voting

This system requires on-chain identity in order to implement one-person one-vote systems. While Decentralized Digital Identity (DID) is on it's way, it's not yet here. Until it is identity-based

voting will have to wait. When it does become available, however, it is expected some form of it will become very popular for DAOs.

Voting Mechanics

Once a crypto project or DAO chooses its voting system there are still a few details to work out in the form of voting mechanics. A few options for consideration are briefly discussed below.

Staking

DAOs may choose to provide their token holders with the ability to stake or lock up their tokens for a period of time in order to increase the voting power of those tokens. The goal is similar to that of conviction voting whereby long-time and active members of the community have a way to minimize the power of wealthy but transient token holders who may only be after short-term gains.

Curve DAO is an example of a DAO that has implemented a mechanism like this. They will be explored later in a section discussing lessons to be learned from DAO growing pains.

Lock-Up Periods

Lock-up periods essentially limit the ability of a voter to access their tokens during the time they are voting on a proposal. It means that if a voter wants to participate in governance they must lock their tokens into a voting contract from the time they start voting to the time that voting ends. During this time they will not be able to sell or trade their tokens. The goal is to prevent attacks by which an individual or entity could acquire a large number of tokens, vote on something malicious or self-serving, get the malicious or self-serving proposal passed, and then immediately sell the tokens without ever having to suffer the downside price action to the token from the community reaction to the bad proposal being passed. Having a lock up isn't a necessity for voting and some projects decide to implement this mechanic while others do not

MakerDAO is an example of DAO where voters must lock their MKR tokens in a voting contract in order to participate in governance votes.

Voting Window

The voting window is the amount of time that voting is open once a proposal becomes eligible to be voted on until when voting is closed. A longer voting window gives the community more time to find out what proposals are being voted and do research to inform their decision at the expense of how fast the DAO can iterate. A shorter window will be faster but may not give the community adequate time to research the proposal and vote which can lead to malicious, self-serving, or ill thought out proposals being passed.

Uniswap,for example, has several rounds of voting before a proposal is eligible for an official governance vote with 2 day and 5 day voting windows in the 2 unofficial polls before the official governance vote.

Implementation Window

The implementation window is the time delay between when a governance vote gets approved/disapproved and when it takes effect. The delay gives users time to sell tokens and/or detach from the project if they believe the newly passed or rejected proposal will have a negative impact on the project and the token's price.

Funding Ecosystem Projects

In the initial stages of a project's life, most if not all of the new ideas the project decides to undertake will be sourced and implemented by the project team. Yet as the project matures, the community will likely start to take a more active role in administration and development. At this point, members of the community outside of the founding team, early investors, and advisors will likely have ideas that they want to see implemented. The project team may not have the capacity to explore and implement these community-sourced ideas. This is where funding can be used to scale the development and human capital available to the project/DAO. It can choose to give individuals or teams from the community, who are outside of the core project team, tokens to fund the development of side projects or initiatives that will bring value to the main project and strengthen its ecosystem.

The key question then is how to choose which community projects get funded? Knowing in advance which projects will deliver the most value to the most number of users is a difficult task.

Allowing the community to vote on which projects they want to see funded is a good proxy for gauging value to the community. Token-based voting is one method to do this but can suffer from an unequal distribution of tokens. In such a case, a few whales may be able to get projects funded that accrue value to them but don't do much for a large number of users in the community. When it comes to funding ecosystem projects, it is good to maximize the value accrued to the largest number of users instead of the wealthiest users. This ensures that the community continues to be engaged and grows. While whales are important, blockchain projects are all about network effects. It is vital to keep the network healthy and growing. To do that the masses need to be continually engaged, be listened to, feel like they have a real stake in the project/DAO. Quadratic Funding is one way to achieve this.

While quadratic funding solves the problem of optimizing for the preferences of the most number of users, it does not solve the issue of knowing which projects will ultimately prove the most valuable. Here a retro-active funding scheme can help solve this problem.

Quadratic Funding

When it comes to funding public goods or projects that are meant to help an ecosystem as whole, quadratic voting can help maximize for ensuring that funding gets directed to the projects that benefit the most people in the ecosystem versus projects that have significant backing from small groups or individuals with outsized influence. This is achieved through a matching mechanism by which an organization or entity matches individual contributions albeit in a non 1:1 fashion. With typical match-based fundraising, if an individual were to donate $100, the organizing entity would then match the $100 donation of the individual for a total of $200 donated. With quadratic voting however the match is “proportional to the square of the sum of square roots” of all the individual contributions.

In practice this means that the match is bigger for many small contributions than 1 large contribution. Back to the $100 donation example, imagine that there are 2 ecosystem projects actively fundraising from a DAO. The first project receives a $100 donation from 1 individual and the second project receives 10 donations of $10 each from 10 individuals. The match for the second project would be much greater than the match for the first project because more people in the ecosystem have signaled that project 2 is important to them through their donations. The match for project 2 is greater even though in absolute terms the amount of money raised for both the first and second projects were the same before the match.

An example of quadratic funding used in the real world is Gitcoin in their grants program.

Retroactive Funding

One of the issues with funding projects is that it’s hard for those disseminating funds to know for sure which projects will provide the most utility to the most members of the community ahead of time. Additionally, with funding crypto projects many teams remain anonymous which creates a trust issue. While great work is being done by many anonymous or pseudonymous contributors in the crypto space, there are still a ton of scams and rugpools.

Retroactive funding looks to solve this problem by funding projects after they have proven their usefulness. The DAO or funder organization assesses the usefulness of a project once it is actually live or at least already providing some amount of value to the community and rewards the contributors in relation to value of the project. Funds can be sent directly to individuals or to a smart contract that divides funds amongst certain addresses.

A third option is to have the nascent project that is looking for funding create a token. Some of this token can be sold to other members of the community who believe in or want to see the project come to fruition in order to bootstrap the project. Or the token can just be allocated to contributors of the project in proportion to the effort and value they add. Once the project has shown it’s value and is ready to be funded, the funding organization can buy the circulating supply of a project’s tokens. Thus those community members who helped bootstrap the project and the contributors who were allocated a portion of the project’s tokens for their efforts get bought out.

Example Governance Structures & Learning from the Past

Example Governance Structures

In this section, the exploration switches from the theoretical to the practical. Instead of describing a subset of notable voting systems, voting mechanics, and funding styles, this section will walk through the governance structures of several prominent DAOs. The walkthroughs are meant to give a high-level understanding of how these DAOs function and are not comprehensive. The full descriptions of each of the DAOs governance structures are available on their websites. These examples showcase how the voting system, voting mechanics, funding, etc come together to create a cohesive structure. In many cases, elements from different systems or mechanisms are blended together to achieve a particular result.

Uniswap

According to the Uniswap website the scope of Uniswap governance includes allocating “UNI towards grants, strategic partnerships, governance initiatives, additional liquidity mining pools, and other programs.” Other governance responsibilities include administering the UNI community treasury, the protocol fee switch, uniswap.eth ENS name, Uniswap Default List (tokens.uniswap.eth), and SOCKS liquidity tokens.

Uniswap governance starts with off-chain governance. The proposal life-cycle starts at *gov.uniswap.org*, a discussion forum dedicated to Uniswap governance. Voters must complete a set of activities within a specified time window in order to be able to post on any discussions in the forum.

A proposal starts as a “Temperature Check” post in the governance forum with a brief description of what is being proposed and a link to a Snapshot poll. Snapshot is a tool for signalling agreement or non-agreement with a Temperature Check post in an off-chain manner. In order to proceed to the next step, a Temperature check post must receive 25k UNI voting yes on it within a 2 day period. This means wallet address with a cumulative 25k UNI or more delegated to them need to vote yes for the post to move forward.

If the Temperature Check post passes the Snapshot poll then the proposer goes back to the governance forum and creates a “Consensus Check” post and another Snapshot poll. This new post incorporates feedback from the Temperature Check phase and lists several options in the Snapshot poll. The poll is live for 5 days and needs 50k UNI voting yes to pass.

If the Consensus Check post passes then it moves to the Governance Proposal stage. The proposer creates a “Governance Proposal” post in the governance forum with links to a professional audit and the results of the previous phases. The proposer must have 2.5M UNI delegated to them in order to start voting on the proposal and must maintain that level of delegation throughout the 7 day voting period. 40M UNI or 4% of the total supply need to vote

‘YES’ on the proposal. There is a 2 day delay between the end of voting and the implementation of an approved proposal.

Additionally, in order to vote on a proposal, UNI tokens must be delegated to oneself or someone else before voting begins. Uniswap voters can delegate their votes to their own wallet address or to other users. There is a section on the governance forum site called “Delegation Pitch” where users can pitch why other UNI holders should delegate their UNI to them. The website https://sybil.org/#/delegates/uniswap shows which contracts hold the most UNI voting power and which delegates are the most popular.

Interestingly, the Uniswap team has acknowledged several potential attack vectors with their governance model. They transparently state that not all vectors can be eliminated with on-chain governance but do list some mitigations for certain scenarios. Go to https://docs.uniswap.org/protocol/concepts/governance/adversarial-circumstances to learn more.

MakerDAO

MakerDAO governance is quite complicated with a plethora of documents on their blog, official website, and separate documentation website covering various aspects of their governance model. The high-level features are discussed here but an in-depth study is out of scope given the complexity.

For starters, there are 2 foundations with a role in MakerDAO: the DAI foundation and the Maker Foundation. The DAI Foundation is tasked with holding and administering intellectual property such as trademarks and code copyrights. It exists due to the newness of DAOs and the lack of clarity around their legal recognition and protections. The DAI Foundation is essentially the legal entity that holds IP that DAOs cannot easily hold at the time of this writing.

The Maker Foundation is tasked with ensuring that MakerDAO makes progress towards its goal of becoming a fully decentralized entity. It also develops the strategy to decentralize the DAO over time. In addition, the Maker Foundation creates and maintains the governance UI, engages in education and outreach to help regulatory bodies understand crypto and DeFi, does community education about the specifics of DAI markets, and highlights important issues that may be voted on in the future to the Maker community. There are regular governance and risk calls with an open calendar so the community can see when they are scheduled. Interestingly, the foundation is prohibited from voting on governance proposals.

In addition to these two main foundations, there are other foundations and groups to be aware of concerning the DAO. Firstly, there is the Maker Ecosystem Growth Foundation which plays a role in funding ecosystem projects. There are also several entities under the umbrella of the Maker Foundation and these are referred to as the Make Ecosystem Growth Group which is incorporated as a Cayman Islands foundation company under the name Maker Ecosystem Growth Foundation.

The governance in which the broader Maker community can participate consists of Forum Thread Signals, Governance Polls, and Executive Votes. Like Uniswap, all proposals start their life in the Maker forums when a potential proposer works to educate the community about their goal and build consensus around it. These are called Forum Signal Threads. Anyone can create and vote on the informal polls in forum signal threads. At this stage a voter or signal thread creator does not need to actually hold any MKR or lock it into a voting contract. For a Forum Thread Signal to move to the next step in the proposal process, becoming a Governance Poll, the thread signal creator has to request a Governance facilitator to transition it. Only elected Governance Facilitators can put polls on the governance portal UI

As a note, in addition to being the first step in the proposal lifecycle, the MakerDAO forum is also used to discuss issues that either don't require on-chain votes (Governance Polls & Executive Votes) or for gathering community sentiment about potential ideas to be formalized into proposals in the future.

Once a Forum Signal Thread moves to the next stage in the proposal process it becomes a Governance Poll. These polls can be multiple choice and use rank-choice voting if and when they are. Governance Polls happen on a weekly basis on Mondays and are usually open for 3 or 7 days depending on what is being voted on. The scope of things being voted on at this stage can include determining governance processes, gauging community sentiment for possible Executive Vote proposals, choosing system parameters to be later confirmed in Executive Vote proposals, and choosing risk parameters for new types of collateral to back DAI. Voting in this stage is on-chain and requires voters to lock MKR tokens in a voting contract. Voters receive back IOU tokens that entitles them to the same amount of MKR tokens when they are done voting. There is no quorum for a proposal to pass. The DAO uses majority rules by the amount of MKR voting for or against a proposal.

Some proposals stop after getting voted on at this stage while others will have to go through a third phase and be voted on as an Executive Vote. It appears that anything that changes the actual smart contracts in the Maker system requires an Executive Vote.

According to the Maker website, Executive Votes "execute technical changes to the Maker Protocol and a proposed set of changes being made on the Maker Protocol's smart-contracts." They can happen any time but are scheduled to happen weekly on Fridays. Voting in this stage uses a slightly different voting mechanism from the Governance Poll stage called "continuous approval voting."

With this mechanism, all new proposals that make it to this stage are directly competing against the status quo implementation at that time as well as any other proposals seeking to change the status quo. All voters who previously voted for the status quo are still voting for that status quo implementation unless they have explicitly unlocked the MKR they are using to vote or switched their vote to a different proposal. This is why it is continuous approval voting because what a voter voted for last time is by default applied to the current vote unless they explicitly change it.

So if a proposal goes through an executive vote and passes, all the votes for it stay on it and must be explicitly removed. Then if a new competing proposal comes up the current state proposal still has all the votes from before. The competing proposal must actively attract votes away from the current state. There may be any number of proposals competing with the status quo implementation at any time. For a new proposal to pass it must gather more MKR backed votes than the current status quo proposal received when it was implemented. This implies an ever increasing threshold to change the status quo. To continuously vote on a proposal voters must leave the MKR tokens they are using to vote within the voting contract for as long as they wish to vote.

Decentraland

According to the Decentraland website, “the Decentraland DAO owns the most important smart contracts and assets that make up Decentraland – the LAND Contract, the Estates Contract, Wearables, Content Servers and the Marketplace.”

Somewhat similar to the MakerDAO foundations, there are several committees imbued with special powers within the Decentraland governance structure. The first is the Security Advisory Board which is composed of 5 Solidity experts initially chosen by the Decentraland project team but who can now be voted on by the community through governance proposals. The board has the responsibility of fixing bugs in LAND and ESTATE contracts. Any updates to these contracts are done via a multi-sig wallet and there must be consensus amongst the board. No member can vote ‘No’ to update a contract in order for the update to take effect.

The second is the DAO Committee which has 3 members all elected by the community. According to the Decentraland site this committee is “tasked with ensuring the continued security of these important pieces of Decentraland’s infrastructure.” It does this in part by enacting updates, upgrades, and other changes that have been approved by the community in governance proposals. The SAB is a higher authority than the DAO Committee as it has the power to cancel any action taken by the DAO Committee. To this end, all actions taken by the DAO Committee are subject to a 24 hour delay between initiation and execution.

Similar to both Uniswap and MakerDAO, proposals have off-chain and on-chain parts of their lifecycle. Whenever a proposal is created, a new forum post is also automatically created in the “Governance” section of the Decentraland forum site. Again, similar to Uniswap, the proposals themselves have links back to the relevant forum discussions and other useful information. The forum discussions are meant to build consensus within the community and can have non-binding multiple choice polls attached to them for that purpose. In fact, polls are one of the proposal categories within Decentraland governance. The other categories are Points of Interest, Name Bans, and Catalyst Nodes.

Points of Interest are places in Decentraland that can be highlighted to users to encourage them to travel there. Name Bans are banned names that cannot be used as usernames or the names of places in Decentraland. Catalyst Nodes are the content servers that run Decentraland.

Within these proposal categories, some lead to binding actions while others like polls do not. The process for proposing and submitting proposals with binding actions is similar to that of Uniswap where consensus is achieved, code is written and audited by a professional, approval is received to have the audited code merged in a formal vote, then either of 2 committees, the SAB or DAO Committee perform the upgrade. These committees will be briefly discussed below.

Only holders of MANA and LAND are able to vote on and create governance proposals. So a wallet must contain either MANA or LAND to participate in governance outside of forum discussions. When proposals get opened on the governance site a Snapshot poll is also created automatically. Voting power (VP) is determined by the amount MANA and LAND a wallet controls with 1 MANA equaling 1 VP and 1 LAND = 2000 VP. At the instant a proposal is created, a snapshot is taken of every wallet's MANA and LAND balances is taken to determine a wallet's VP. If a wallet's MANA or LAND balance changes after this snapshot it only affects a wallet's voting power for future proposals. In effect, this means that a user could have 100 MANA and 0 LAND equalling 100 VP when the snapshot for a proposal is taken, sell all 100 MANA, and still be able to vote with the 100 VP. However, the user would be able to vote on subsequent proposals without acquiring more MANA or LAND.

Voting is done by a majority rules system so there is no quorum or certain % of circulating MANALAND needed for a proposal to pass. Its success or rejection is simply determined by if more than 50% of the total votes cast are in favor or against. Users cast their votes on a governance interface powered by Aragon.

Funding ecosystem projects is also an activity the broader community can engage in. Community members seeking a grant fill out a proposal which the community then votes on. If approved the DAO committee releases the requested funds. There are 4 grant categories: community, content creator, platform contributor, and gaming. There are 3 Tiers of grants with higher number tiers corresponding to a higher payout. For Tier 1 and 2 grants the entire amount of the requested funds are dispersed in a single payment. For Tier 3 grants, the ones with the most requested funds, there is a vesting contract with a one month cliff. Grant requests are open for 7 days for discussion and voting. Approvals require 1 million VP voting "YES" and for the "YES" votes to be the majority of all votes cast

The Role of Off-chain governance

As can be seen from the examples above, many DAOs have an off-chain and on-chain component to their proposal processes. This is because consensus building within a community is difficult to do on-chain. It requires exchanges of ideas, back-and-forth conversations, input from multiple individuals and stakeholders, and iteration to get to a final proposal or set of ideas to be voted on. Uniswap, MakerDAO, Decentraland use forums as a place for the community to propose, discuss, and build consensus for ideas informally before moving to more formal

on-chain processes. Rawrshak should learn from these examples and utilize forums in a similar way.

Learning from the Past - DAO Missteps

Having taken a look at several real world examples of DAO governance, it is now time to explore why it is so important to be thoughtful about a project's governance structure. This section will provide several examples of governance failures or how bad governance can damage a project down the line.

Steem - Importance of Decentralization and Fair Launches

Steem is a project built on its own layer 1 blockchain, intended to be the first decentralized social network, a social network owned by its users, in contrast to the popular Web 2.0 platforms of today.

In 2016, the STEEM CEO and CTO did a surprise launch of the STEEM blockchain, even unbeknownst to the rest of the STEEM team in order to pre-mine 80% of the then circulating STEEM tokens. This gave them absolute control of the blockchain and would entitled them to unfair economic upside through appreciation of the STEEM token.

Then in 2019, Justin Sun of Tron approached the STEEM CEO with an $8 million offer to buy the company behind STEEMIT, the social media platform on STEEM, and the pre-mined STEEM tokens which now represented about 30% of the circulating supply. Sun's goal was to bring STEEMIT and it's thriving community to the Tron blockchain. While the pre-mine now only represented a smaller portion of the circulating supply of tokens, it still represented a huge amount of governance power. Sun bought 70% of the tokens up front and was set to pay the final 30% when STEEMIT was ported to Tron.

Upon learning about the secret deal, the STEEM community rebelled. The way STEEM governance worked was a group of 20 community "elected witnesses" elected through STEEM token-based voting ran the blockchain. They quietly passed changes to the blockchain that froze Sun's accounts blocking him from being able to vote with them and pass any resolution to move to Tron. Sun fired back by exhorting large crypto exchanges to vote with him using the exchange users' STEEM tokens that the exchanges custodied, a move that likely foreshadows a different but upcoming battle in the crypto community. With the exchanges using their users STEEM tokens to vote for Sun, he took back control of the STEEM blockchain and installed his own "elected witnesses"
As a last ditch move, the STEEM community forked and created a new blockchain called HIVE and gave most users the same amount of HIVE tokens as they had on STEEM. Except users and communities who supported Sun were given nothing on the HIVE blockchain.

In response, Sun and his "elected witnesses" started censoring posts on STEEMIT on anything related to HIVE and even went as far as passing a proposal to take tokens out of STEEM users'

accounts for participation in the HIVE fork. In effect, Sun managed to steal user's tokens as retribution.

All the problems highlighted in this story start with the pre-mine of STEEM tokens and incredibly unfair launch which entrenched whale interests and control of the STEEM blockchain from the beginning. Looking back, a showdown between the community and those controlling interests now appears all but inevitable. This highlights the issues of blockchain governance, the role of whales, how whales become whales, and community divergence from controlling interests. Blockchains are ecosystems run and given value by different kinds of participants. When the appearance of controlling interests arise, which inherently means there is a lack of decentrantralization, and try to force their vision and goals on the community without any buy-in only chaos can ensue. Users have the right to leave the blockchain and it's ecosystem as in the case with STEEM or fork if the blockchain protocol is open-source which also happened.

The way to avoid problems like these from the beginning is to have a fair launch that distributes the RAWR token to a large swath of the community and different kinds of ecosystem participants. For major decisions, the RAWR team should be open, transparent, and work to get buy-in from the community. There should be decisions forced down the throat of the community or they can be expected to rebel, leave, or fork. Additionally, the governance system needs to be as resistant to manipulation, takeover, and centralization as possible. Note that Sun took control of STEEM through proxies by voting enough of the people he wanted to the council of 20 "elected witnesses". Once he had control of the council, he could pass any proposals he wanted. No governance structure will ever be completely immune to takeover. Humans are gonna human. But perhaps a governance structure that allowed users to vote directly instead of having to vote for 20 delegates would have been less susceptible to takeover.

Curve - Importance of Governance Structure and Participation

Curve is a decentralized exchange and Automated Market Maker (AMM) where users can lock pairs of tokens into liquidity pools and earn a fee for providing liquidity for others. For example, a user can lock an equal value of DAI and USDT into a liquidity pool so that other can swap between DAI and USDT freely. The users providing the DAI and USDT in the pool earn a proportional share of the fees collected from other users between the assets in the pool.

In the Curve DAO users lock up CRV, the economic token, to get veCRV, the governance token. As of August 2020, a very small proportion of CRV holders had actually locked up their tokens to obtain veCRV and vote with them. This left control of the project in the hands of a very small group of users.
The situation allowed an address controlled by Yearn Finance to gain up to 58% of voting power with the Curve founder then countered by locking up a large portion of tokens for 4 years. At its peak, this gave the Curve founder 71% of the total voting power. As a note, in Curve, token holders can lock up their tokens for extended periods of time to gain more voting power.

However, the Curve DAO requires 33% quorum to propose a change and 50% to pass a change. This made it almost impossible to pass any changes since the Curve Founder promised not to actually vote on any proposals after community backlash for taking so much of the governance power. Note that it may have been bad form for the founder to do this but the mere fact that he had enough tokens to do so at any time he wanted is also a problem. It means that the governance structure of the project was susceptible the entire time even if it was only manifest when the founder took 71% of the governance power.

The lesson here is again that, for now at least, whales are a part of the blockchain ecosystem and governance structures need to take this into account. One could argue that the whale on whale battle between Yearn Finance and the Curve founder was actually not the worst potential outcome in this situation but it still begs examination of how to reduce the influence of whales. Another lesson here is that governance mechanics that require multiple steps are likely going to lead to low participation from the community and in the case of Curve leave it susceptible to takeover from outside entities without drastic intervention from whales. For now at least, blockchain governance needs to be simple enough that everyday users can understand and learn it quickly. The harder question is how to get users to want to do it. This isn't a problem unique to blockchains however as voting in the nation elections of many countries also suffers from low participation.

One potential solution is to incentivize users to vote directly or delegate their tokens through either a carrot or a stick. Examples of a carrot could be eligibility for NFT airdrops, token drops, exclusive access, increased voting power for proposals, etc

The DAO - Importance of Having the Correct Incentives

The DAO is now an infamous name in crypto circles. Upon getting hacked it sparked a division in the Ethereum community that led to the hard fork that resulted in the creation of Ethereum Classic. It was meant to be a decentralized version of VC-firm where members of the DAO would vote on ecosystem projects to fund and share in the rewards. While a vulnerability in The DAO's smart contracts ultimately led to the hack, a lot can be gleaned from an examination of some of The DAO's other issues, namely it's voting mechanism.

The DAO was the first large-scale attempt at DAOs in general and decentralized governance. As such, it provides a good example of issues to watch out for with regard to having the correct voting incentives. While not all attacks can be guarded against with token voting, the analysis done on The DAO still proved useful today.

Issue 1 - Disincentivizing 'NO' Votes
Once a member voted on a proposal they could not leave The DAO until after the outcome of the vote was known. This incentivized members to abstain from voting because if a proposal they did not agree with looked like it was going to pass they could leave at any time.

It also incentivized members to only vote ‘NO’ if they were reasonably sure it wasn’t going to pass. This is not ideal as you want members to always vote their preferences without knowing the preferences of others.

Issue 2 - Last Minute ‘YES’ Vote Flood

There was an incentive to not vote “NO” on proposals so members could leave The DAO at any time they wished with their locked funds. This made the voting process susceptible to an attack where an individual or group of individuals could vote “YES” with just enough of the voting power to pass the proposal in the final minutes or seconds of voting being open. This would leave very little time for the community to react, organize, and stop the proposal from going through. This kind of attack would be especially harmful if the proposal being voted on was malicious or self-serving in nature (e.g. “give my wallet address 50% of the DAOs funds”).

Issue 3 - Scare Members into Dumping Tokens

This kind of attack while analyzed in the context of The DAO originally applies to almost any DAO. There is the possibility of an attack where a malicious actor is somehow able to scare members into believing their funds are not secure, the project is doomed to fail, etc. If successful, this would drive down the price of the DAO’s tokens. The attacker could then create a proposal that if passed would either negatively affect the DAO or be self-serving in nature. They could then vote “YES” with a large amount of voting power. This could create a feeling of the proposal passing imminently and discourage buyers from picking up the cheap tokens. The attacker could then pick up the cheap tokens themselves.

Issue 4 - Split Majority Takeover

Again, while this kind of attack was originally analyzed in the context of the DAO, it can apply to any DAO. If a majority of the voting power, greater than 50%, comes together with intent to pass self-serving proposals, like emptying the DAOs treasury, they could do so over a series of proposals. It wouldn’t need to be done in one large attack. The malicious actors could create several proposals to drain DAO funds to their wallets without it looking like a single attack. The proposals could be disguised as actual projects that would benefit the community but actually be rug pulls

Issue 5 - Concurrent Proposals

If there are many proposals open at once the possibility of conditionality exists. In plain English, this means that a member could only want to vote “YES” on proposal B if proposal A passes. The consequences of a proposal passing may be different if other proposals also being voted on are passed or voted down. Not having a way to give conditional vote can constrain voting members and not allow them to fully articulate their preferences.

Recommended Governance Roadmap and Structures for Rawrshak

In this section, after having explored extant and theoretical voting systems and mechanisms, investigated the governance structures of prominent DAOs, and learned from DAO missteps of the past, the recommendation for how Rawrshak should implement governance will be discussed.

The first topic to explore will be the importance of having a fair launch. From the overview of the Steem debacle, it is easy to see how centralization of a project's token supply and the subsequent temptation to make decisions without consulting the community can lead to disaster.

Fair Launch

Phased/Continuous Airdrops

In a typical airdrop, users of protocol get tokens sent to their wallet as a reward for being early in the adoption curve and helping the project create its network effect. A snapshot is taken at a specified date and all users who have interacted with the protocol according to some minimum criteria are eligible for the airdrop. Power users may be eligible for additional rewards depending on the minimum criteria. This is a good way to somewhat more evenly distribute tokens to a project's community beyond token sales which suffer in fairness from information asymmetry, legal restrictions in certain parts of the world, and potentially a limited amount of tokens available to the public due to large pre-sales to investors and insiders. However, the typical airdrop doesn't solve all the problems related to centralized token supply. While the difference in information asymmetry between knowing about and being able to participate in a token sale, and knowing that a project has launched and is available for public use, is likely greatly reduced, it still exists. There will be plenty of willing users who will be left out of the airdrop because they weren't familiar with the project at the time the snapshot was taken.

To remedy this it is recommended that Rawrshak engage in a phased airdrop scheme. Instead of airdropping tokens to early adopters once, Rawrshak should create an airdrop schedule. A potential idea is to link the airdrops with development milestones that bring forth new functionality or adoption milestones for 'x' numbers of monthly active users or total number of users who have interacted with Rawrshak. The airdrops can also be time based happening at predetermined intervals over a specified period of time.

An simple example implementation could be 10% of tokens set aside for airdrops get released halfway into testnet according to minimum engagement criteria (MEC) 'a', 10% get released at the conclusion of testnet according to MEC 'b', 10% get released 'x' amount of time after the launch of mainnet with MEC 'c', 10% get released 'y' amount of time after the launch of mainnet with MEC 'd', etc.

As the project reaches new development milestones, it is assumed that more functionality will be enabled for users to take advantage of as well as additional time have passed for users to

discover and familiarize themselves with the protocol. As such, the MEC to be eligible for each subsequent airdrop can increase. Additionally, the MEC increase could only apply to wallets that have already engaged with the protocol while new wallets have a lower bar to be eligible. It is understood that users could get around the MEC increase for wallets that have already engaged with the protocol by creating new wallets but there is no way around this without decentralized identity.

The recommended allocation for the % of tokens marked for airdrops in each phase should start low in the earliest of the phases (e.g. testnet), increase for major milestones (e.g. launch of mainnet), and then decrease again in later phases. This gives the people who missed out the previous phase another chance to get in as attention grows. It also helps bootstrap the network early on while experimenting and stabilizing, leaving the bulk of the rewards for when adoption is the priority for the project, and still incentives usage later on for older users and newer users late to the party.

The advantages of the phased airdrop are that it rewards continuous engagement with the protocol and provides a continuous incentive for new users to start using the protocol. The typical airdrop is a one and done deal where there is no incentive to use the protocol after the airdrop for old users or for new users to join once they hear the airdrop has already happened.

Claimable Rewards for Minimum Usage

The airdrops can theoretically continue for years into the life of the project. If so, at some point it may be better for the token dissemination mechanism to look more like “continuously claimable rewards” than airdrops. At a certain point the community will expect the airdrops and they will no longer be surprises or eventful. Additionally, at some point the project will have hit critical mass and the airdrops no longer make sense as the mechanism for incentivizing new users to join. Then simply letting users claim rewards according to some MEC may make more sense. There is precedent for this in many NFT projects today where NFT holders who own a certain amount of a project’s NFTs are eligible for NFT airdrops, first access to sales of new NFT collections or merchandise, etc. Similarly, many NFT projects have a point system for members in their Discord servers whereby members can increase their points by engaging more in the server channels. If members have high enough points they become eligible for rewards as well.

In this paradigm, new users may simply have to complete a set of MEC and then be able to claim their reward whenever the MEC is completed. Like the phased/continuous airdrops, the claimable rewards could start low, increase, and then decrease again over time. This could in theory also happen in tandem with phased/continuous airdrops with a portion of the total token supply marked for each incentivization mechanism.

Guarding Against Early Adopter Hegemony

It is clearly important to reward and incentive new users to Rawrshak in order to build network effects. However, it is also important not to entrench early adopters into power indefinitely. This is why it is important to have phased/continuous airdrops and/or claimable rewards over a long

period of time. This requires reserving a large portion of tokens for the community and disseminating them slowly over time. Another way to guard against early adopter hegemony is to limit the amount of RAWR tokens a wallet can receive from the airdrops and claimable rewards. This can be an absolute number representing a proportion of the total RAWR supply. Whenever a wallet hits this limit they are no longer eligible for airdrops and claimable rewards. Or the limits can also apply to specific phases. For example, in the airdrop occurring halfway into testnet, a single wallet is only eligible for up to ‘x’ amount of RAWR. In the airdrop happening after the completion of testnet, a single wallet is only eligible for up to ‘y’ amount of RAWR. A RAWR limit would continue to apply to later phases. The recommendation is to limit the amount of rewards a single wallet address can receive per phase so that there is always an incentive to be active in subsequent phases. If an absolute limit is applied that a wallet address could reach at any point in time, there is a risk that the user stops using Rawrshak and never returns.

Pre-Sale of RAWR Tokens

Ideally, this has a low % of the total amount of RAWR tokens that will ever exist allotted to it. This should be substantially less than the percentage allocated to phased/continuous airdrops. Pre-sales of tokens to insiders provide an unfair advantage over retail users to realize upside price action in the token because they typically happen before the token is available to retail. Additionally, a significant amount of the total supply of RAWR tokens being sold to insiders would contribute to a centralized token supply and thus centralized voting power in governance. As seen from the Steem example, this is a situation that should and can be avoided by doing as fair a token distribution from the start as is possible.

In-game RAWR Mining

A powerful but untested idea for distributing tokens to Rawrshak user is through “in-game mining.” In such a scheme Rawrshak would partner with blockchain games to offer the players of these games the ability to earn RAWR tokens. Again a MEC could be applied to every user or wallet address to be eligible to earn the RAWR tokens. Or the tokens could be continuously accrued according to some objective and verifiable criteria. For example, users may have to complete ‘x’, ‘y’, and ‘z’ tasks in blockchain game ‘A’ in order to be eligible for a certain number of RAWR tokens. This method has several advantages.

Firstly, it leverages the already extant communities of popular blockchain games. The hardest part of building a new ecosystem is getting new users and building network effects. By partnering with popular blockchain games, Rawrshak can introduce itself to a community of blockchain gamers through the games these players already know and love. These players are exactly the kinds of users Rawrshak is looking to attract as Rawrshak itself is focused on gaming and NFTs.

Secondly, it incentivizes engagement of the partner blockchain games by giving their users a new way to earn while playing the games. This benefits the entire blockchain gaming ecosystem as whole and the partner games’ ecosystems by incentivizing new users to start playing the

partner games. This grows the whole blockchain gaming community. It is a win-win for the partner games and Rawrshak.

Thirdly, it helps widely distribute the RAWR token to communities and ecosystems beyond Rawrshak. By tapping into other blockchain communities and allowing players to earn RAWR, the token distribution will be more decentralized than through phased airdrops and claimable rewards to Rawrshak's self-bootstrapped community alone.

Content Creator/NFT RAWR Mining

Similar to in-game mining, content creator/NFT mining is based on partnering with content creators and NFT projects to give members of their community an opportunity to earn RAWR tokens. The benefits to both Rawrshak and the content creators/NFT projects in this case are nearly identical to the in-game mining case. Rawrshak gets to leverage the communities the content creators and NFT projects have built while the content creators and NFT projects get to increase the size and engagement of their communities by offering them RAWR tokens. For example, a wallet address that holds a content creator or NFT project's NFTs or bids on them on Open Sea could be eligible to earn RAWR tokens.

In addition, these content creators and NFT projects could also launch some NFTs on the Rawrshak marketplace. Users who buy or bid on them there could be eligible for RAWR token rewards.

Rawrshak DAO Governance Roadmap

In the earliest stages, Rawrshak will operate in a centralized manner with a foundation and/or corporate structure. Eventually the DAO will be entrusted with administering all of the project's smart contracts, treasury, other assets, and decision making authority. The transition from centralized authority to full decentralization will however be a process that unfolds over time.

When full decentralization is reached, the DAO will have the ability to implement technical and non-technical changes. Technical changes include protocol parameter updates like the % fee collected by the Rawrshak treasury for sales and purchases of NFTs on its marketplace. Smart contract upgrades to enable new functionality or fix bugs also fall into the technical category of responsibility.

The non-technical responsibilities for the DAO will include funding ecosystem projects, making changes to the governance structure and processes, engaging in partnerships, entering legal agreements, imbuing individuals or teams with the authority to represent the DAO on certain matters, and contracting work on behalf of the project.

Phase 0 - Pre-RAWR Token Launch

In this phase, the project will mostly be under the control of the founding team. The team will articulate the vision for the project and work to attract like-minded individuals from the broader

crypto and gaming communities. Decision making, strategy development, and roadmap creation will be done by the founding team in order to set Rawrshak on a path to achieve its vision. The team may consult the community through non-binding means such as community calls, polls, forums, blogs etc in order to maintain transparency and stay connected to the community.

Proposals:

- At this point there will be no formal proposals or true governance structure other than team consensus and input from advisors

Voting System:

- As decision making is centralized with the founding team and there will not be proposals in this phase, there also will not be not any votes

Voting Mechanics:

- No voting mechanics need to be established because there are no votes in this stage.

Ecosystem Project Funding:

- As there is no token at this stage of the project, there will be no treasury to disperse funds. In addition, the project team will be focused on building the core functionality that in later phases the community can propose ideas to build upon

Phase 1 - Post-RAWR Token Launch

In the medium-term, much of the decision making will still lie with the founding team but new stakeholders such as institutional & angel investors and retail token holders will now have an active stake in Rawrshak. Certain responsibilities will begin to be delegated to the community.

From a technical standpoint, some protocol parameters like the % fee on transactions should be able to be entrusted to the community. Smart contract upgrades and changes will likely still be the responsibility of the founding team or an entity in which the founding team still plays a role. A technical council like Decentraland's Security Advisory Board may be a good model to emulate to ensure the safety of the project's smart contracts while the community builds it's governance muscle.

With regard to non-technical matters, some time post-token launch the community should be entrusted with funding ecosystem projects in some capacity. This does not mean that the community will have total control of this process immediately. A staged approach can be taken here. Initially, only a portion of how the token supply earmarked for funding ecosystem projects may be decided on by the community with the founding team deciding the rest. As an example, if 5000 RAWR tokens from the treasury are to be allocated to community members for developing new ideas, 2500 of the tokens could be set aside for matching community donations in using quadratic voting. The other 2500 would then be allocated by the project team.

At this stage, other concerns like partnerships, legal agreements, and deciding the governance structure of the DAO will still be the responsibility of the founding team.

Proposals:

- Proposals will begin their life in an off-chain process similar to Uniswap, MakerDAO, and Decentraland. This will involve creating a forum post detailing what additions or modifications an individual wants to propose. To enable this, Rawrshak will need to set up a forum site for users to post and discuss their ideas. Anyone should be able to post ideas and discuss in the forums even if they are not holders of the RAWR token. The purpose of the forum post is to provide a space to explain, build consensus around, and iterate on ideas within the community.

- Once a proposer(s) has iterated on the ideas in the initial post, believes they have enough community buy-in, and can clearly and concisely articulate their ideas in written form, they can open a Snapshot or similar poll. There should be 2 types of polls, informal polls and polls for proposals meant to eventually become formal governance proposals. Anyone in the forums should be able to make an informal poll. Only RAWR token holders should be able to open polls for proposals on the formal governance proposal track. These polls with proposals on the formal governance proposal track are similar to the Temperature Check in Uniswap or the Forum Signal Thread in MakerDAO where an on-chain vote occurs. They should be linked to their original forum post. The polls will be used to vote on whether the ideas listed in the forum post should be turned into a formal governance proposal to be voted on by the community. This step is important for limiting the total number of formal governance proposals the community has to vote on. It also ensures the proposer is investing time building consensus within the community

- Polls will be able to be opened at any time without any constraints in order to preserve maximum flexibility.

- Similar to Uniswap, in order for a poll to pass and move to the next stage, becoming a formal governance proposal, a certain number of RAWR tokens should participate in the poll. The token threshold should NOT be a major % of the total circulating supply.. It should be a small percentage, likely less than 5%. The goal of the threshold isn't to ensure broad consensus as in quorum-based voting. The purpose is to filter out low quality, low support polls and stop them from becoming formal governance proposals. At the same, it establishes a bare minimum level of support needed from the community

- Once the minimum threshold of votes for the poll is reached, simple majority rules will determine if it passes or fails.

- Only RAWR token holders should be able to open a formal governance proposal and only after the associated poll passes. It will again be a Snapshot vote and should have links to the original forum post and the Snapshot poll results. There should be a short

delay between the end of voting on a poll and the start of voting on a formal proposal. A minimum delay of 24-48 hours may be appropriate.

- Once a poll passes and becomes a formal governance proposal, there will be no minimum threshold of RAWR tokens voting. A simple majority rules system will determine if the proposal passes or fails.

- There may be concurrent polls and concurrent formal governance proposals actively being voted on at any point in time

Voting System:

- Once the minimum threshold is met for polls simple majority rules will decide if the poll passes or fails. Simple majority rules will also determine the voting results for formal governance proposals.

- Simple majority rules without large quorum percentages optimizes for speed and stops minimizes the probability of good proposals not passing due to low voter turnout and/or strategic voting by individuals who choose to abstain so that a proposal cannot reach quorum. It does mean that the community needs to be active and engaged to make sure bad, self-serving, and malicious proposals do not pass.

- Optimizing for speed, especially early in the life of a project, is important because the project will need to react quickly to changes in the macro environment, industry developments, legal and regulatory concerns, security issues, etc. Potentially getting bogged down by trying to reach quorum doesn't seem worth the hassle.

- If and when proposals are multiple choice-based, rank-choice voting should be implemented. This allows for maximum expression of preferences by token holders

- Vote delegation should be allowed for any users who want to donate their voting power to another individual or entity already holding RAWR tokens. As discussed in a previous section on liquid democracy, letting token holders vote directly when they feel strongly or knowledgeable but delegate their vote to a trusted individual or entity when they don't feel strongly or knowledgeable, gives users more freedom to express their preferences.

Voting Mechanics:

- As the voting system is simple majority rules, there needs to be a voting window long enough for token holders to review a proposal. The project needs to guard against the possibility of a proposal which nobody has had time to review slipping through the cracks.

- The window should be shorter for polls and longer for formal governance proposals. Potential windows are 3 days for polls and 7 days for formal proposals.

- There should also be a small but meaningful gap from the time a proposal is passed to when it is implemented. A delay of 3 days is a potential window to give token holders time to divest their RAWR tokens if they don't agree with the outcome of a proposal.

Ecosystem Project Funding:

- Rawrshak DAO should experiment with different models for funding ecosystem projects. As opposed to other governance in other areas, experimentation in the funding is lower stakes and changes to the process are likely less jarring.

- A fairly straightforward process would be to use rank-choice voting assuming there will be a slate of projects competing for funds. Each wallet's vote would also need to be weighted by the amount of RAWR tokens it controls. Rank-choice voting allows users to express their preferences in a flexible manner and is quite well suited to the funding use case. With this system, all funds could come from the DAO treasury and without a need for the community to also contribute

- A second funding process with potential is quadratic funding. In this system, individual users and entities in the community would pledge funds for their project of choice and the Rawrshak DAO would match the community pledged funds using the treasury. The allocation from the treasury to each project would be determined using a quadratic formula designed to send the most funds to the projects that the most users, and by proxy wallets, have also committed funds to. It's meant to optimize for funding projects that the most users will derive benefit from and reduce the influence of whales who may have divergent interests from the rest of the community. Here RAWR token balance plays no role in deciding the outcome of the funding process. This does however require the community to pledge funds in addition to the match coming from the treasury.

- The most experimental funding process is retroactive funding. In this system, an individual, team, or entity would complete the work for their proposed project and apply to be compensated some time after completion. Before starting the work, however, the contributors would need to submit a funding request for the amount they would eventually like to be awarded by the DAO. A process would need to be created to evaluate the value of the project to the Rawrshak ecosystem and determine if the contributors should be awarded the full amount they requested or a different amount.

Phase 2 - DAO Maturity

When the DAO reaches maturity it will have responsibility for all of the DAOs affairs. At this point, the founding team will no longer play a role in administering the project other than participating in governance as individuals like all other retail token holders. All formerly centralized decision making responsibility will be in the hands of the community. The DAO will be able to enter into and manage its partnerships and legal agreements as well as make decisions about what the future governance structure of the DAO should be. Any councils

imbued with special powers should be fully elected by the community. Any foundations with special oversight of the DAOs affairs should be dissolved.

As of this writing, the project team envisions the governance structure of the DAO when it reaches maturity operating closely to the processes outlined in Phase 1 but ultimately this will be up to the community. A consideration to take into account will be the changing needs of the project with regards to speed versus security. As the project matures, security may become a higher priority compared to speed and the desire to rapidly iterate. At this point the community may want to review the DAOs voting system and consider implementing a quorum-based vote. Quorum-based voting optimizes for guarding against unpopular or malicious outcomes at the cost of speed. As the project gains more users and reaches critical mass, it may be more important to focus on securing users assets and building broad consensus before making substantial changes. For any major changes that do get made, it will be imperative to be sure the community is behind the changes.

Optional - Phase 0.5

Optionally, in between Phases 0 and 1, there can be a Phase 0.5. This would be nearly identical to Phase 1 except that instead of allowing users to open a Snapshot poll when they feel their forum post has enough engagement, the project team would be in charge of opening the Snapshot polls. The team would only open the polls after the forum posts satisfied some minimum engagement criteria. The criteria may include the results of an informal poll similar to MakerDAO or the Temperature Check Snapshot poll in Uniswap, number of users contributing to the discussion, number of posts, and other qualitative assessments of the level of engagement. Judging whether the minimum criteria is would likely be done manually by someone within or hired by the Rawrshak team.

Staking

- API3 Example
    - Rewards accumulate weekly but are not dispersed and cannot be accessed by those staking until 1 year after the rewards are awarded

Governance Experimentation & Sub-DAOs

- Setup sub-DAOs that experiment with different types of governance
- The sub-DAO governance structure can be added to or replace parts of the main DAOs governance structure

Available Governance Tools

- Sybil
    - Shows delegates with the most project tokens delegated to them
- Snapshot
    - For recording off-chain votes
- Aragon
    - DAO backend used by Decentraland DAO

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