Tokenomics for Curato DAO

A position paper for the Tezos Web3 Hackathon

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Abstract

The role of a Curator in the traditional art world cannot be over-emphasised; however, with the increasing perception that this creates “gated” communities of art enthusiasts and leads to an overall negative effect for the industry, today’s technologies offer an alternative approach.

Enter the DAO, or Decentralised Autonomous Organisation, which can be broadly thought of as a traditional SPV (Special Purpose Vehicle) or organisation with a defined governance structure and objectives – but existing exclusively on a digital, block-chain ledger. This is coded and implemented with software programmes running on distributed ledger infrastructure, like Tezos, making it possible to operate a highly secure, transparent and decentralised mechanism to coordinate art and culture related activities. It is through this DAO mechanism that we will expand on the role of the Curator, which has primarily resided in the realm of being a very sort-after facilitator of cultural experiences, into one which becomes more accessible (and transferable) to all the potential stakeholders in the Arts and Culture industry.

While the art market as a whole rose to $65.1 billion in sales last year, up 29% in 2020, the NFT (Non-Fungible Token) portion of that grew over a hundredfold to $2.6 billion in 2021[1]. However, with the rapidly evolving technology landscape, there are still technical aspects of the DAO (and indeed Web3 / Blockchains in general) that are still being improved upon today and many which have not even been imagined yet, but in this paper we will focus on the following aspects:

- the Curato DAO **Tokenomics,**
- the potential **Voting Models** of the governance structure
- the **Impact** of these models, and
- the perceived **Challenges** and **Risks** of the DAO

A Curator’s role in Arts and Culture has reached an inflection point in today’s complex, hyper-connected world. Fortunately, human ingenuity presented us with technologies that allow us to not only have an input into the evolution of this role in our societies, but to collectively improve the experience of Art and Culture lovers globally!

1. TOKENOMICS

While arts and culture institutions struggle to find their way into Web3, a generation of crypto-native collectors have their sights on the legacy art world. How can the arts and culture sector see through the hype and build a sustainable institution with the blockchain?[2]

This will involve a basic proficiency in computational programming, and one of the best ways to equip institutions in this regard (besides the myriad of available online resources) is through an already familiar concept – accessible, tradeable value. Tokenomics, or 'Token Economics' to some, is a general representation of how a unit of value will be distributed within the Curato DAO Ecosystem.

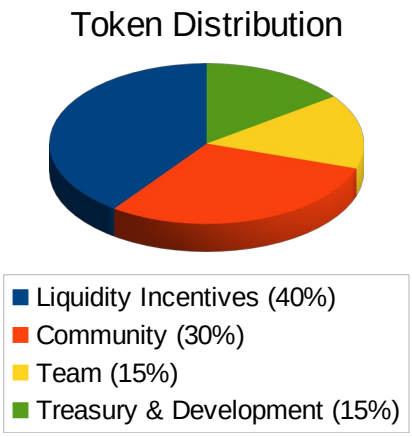
For our DAO, we will consider how a unit of value will be distributed to our eco-system with the following broad set of objectives:

- to access digital Arts and Culture **infrastructure**
- a secure **marketplace** for infrastructure providers (e.g. museums, popular digital art accounts / platforms)
- create diversity of **exhibition** platforms for creators
- access to exclusive **educational** content

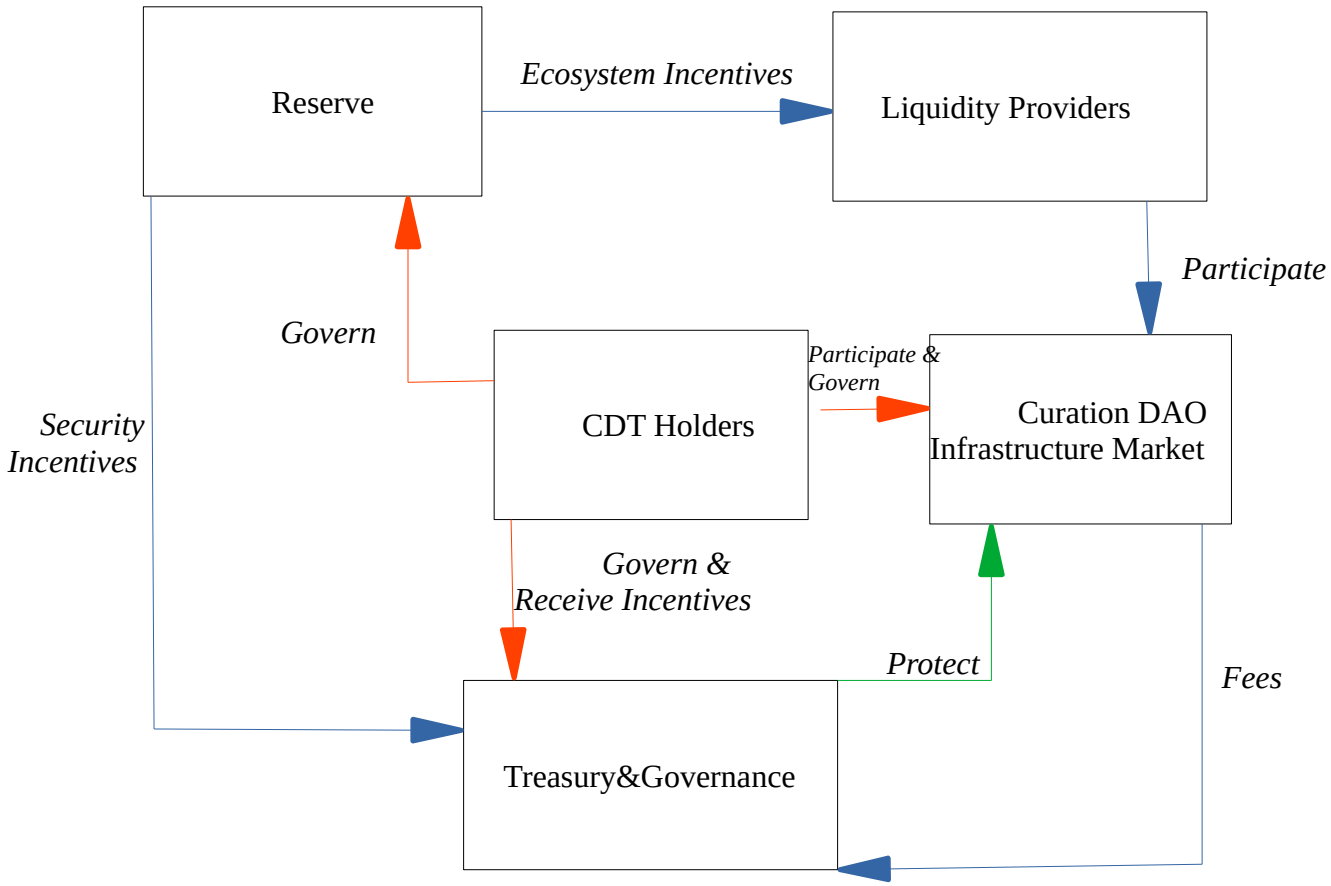
The following summarises the key metrics of the Curato DAO tokenomics:

Metric	Value
Blockchain	*Tezos*
Token	*CDT – Curato DAO Token*
Token Supply	*1,000,000,000*
Token Model	*Deflationary*
Vesting Period:	*3 years (50%,30%,20%)*

- ***Figure 1: Summary of the Curato DAO Tokenomics***



Audience engagement is the key to success. And since our DAO will essentially be a platform for infrastructure providers and creators to meet and interact, the following diagram illustrates how the tokenomics facilitates that interaction.



- Figure 2: Ecosystem of the Curato DAO Infrastructure marketplace

The equilibrium value of tokens is determined by aggregating the market participants' transactional demand rather than discounting cashflows as in standard valuation models. Organic platform adoption builds upon user network effects and exhibits an “S-curve”—it starts slow, becomes volatile, and eventually tapers off[3].

Introducing tokens lowers the users' transaction costs on the Curato DAO marketplace by allowing participants to capitalize on platform growth. The resulting interaction between user adoption and token price accelerates adoption and dampens user-base volatility.

For Institutions and creators alike, reducing the friction of value transfer via a token will potentially facilitate more decentralised, global engagements with Web3 communities.

2. Voting Models

The first step of the voting or governance model will be the initial bootstrapping of the DAO Ecosystem. That will mean incentivising an initial group of infrastructure partners and creators to participate, which will be done by distributing CDT Tokens.

CDT takes the role of a governance token. Voting will be a function of the **Voting Weight** and the amount of CDT Tokens that a holder has. Expressed as follows:

$$\textit{Total Number of Votes} = \textit{Voting Weight} \times \Sigma\ \textit{CDT Tokens} \quad \text{.....(1)}$$

Where, **Voting Weight** is a percentage value determined as follows:
(Number of days CDT staked / 30) x Community Participation Score.

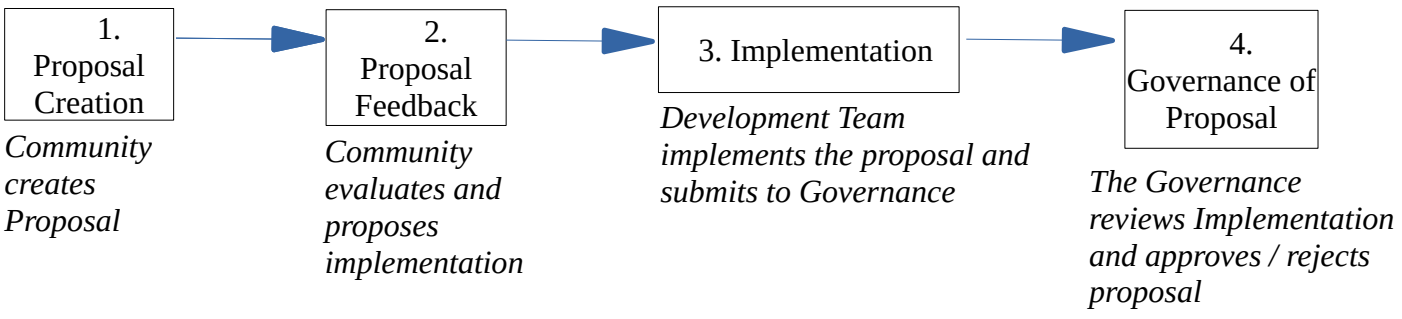
The Community Participation Score is a value between **0 – 1** that's a function of your activity and holdings in the Eco-system. This is to incentivize CDT holders to participate for at least 1 month before voting on proposals and prevent malicious activity by resourceful actors. It will aim to allocate 1 vote per CDT holder.

The Community Participation Score has the following calibration:

	Metric
Score Allocation Tiers:	
Beginner (0 – 0.25)	*0-7 Stake days, 0 – 100 CDT, No Onboarding*
Growth (0.25 – 0.5)	*7-14 Stake days, 100 – 1000 CDT, On-boarding*
Intermediate (0.5 – 0.75)	*>14 Stake days, >1000 CDT, Onboarding*
Advanced (0.75 - 1)	*>30 Stake days, >1000 CDT, Onboarding*

Voting will allow users to use Cold Wallets (off-line secure devices for the custody of crypto currencies), this will also prevent 'double voting' as the security mechanisms on the Tezos block-chain will allow us to programme a Minimum Duration condition within the software programme. This can also be extended to check if the minimum quorum for a decision has been reached, who proposed the governance changes and how many times participants voted.

The overall governance process is as follows:



3. Impact

Structuring the DAO with this model affects the participants in the eco-system differently, we'll look at how it affects two groups in particular – Infrastructure Providers and Creators.:

(Infrastructure Providers)	**Metric**
Type of Infrastructure provider	*Museum, verified social media accounts, collectors, Advertising Agencies*
Channel(s) to acquire CDT Tokens	*Curato DAO market, Liquidity incentives, subscription services*
Common type of DAO engagement	*Exhibit Creators work for rewards*
Average duration of participation	*1 – 3 months (unsubscribed), 3 – 12 months (subscribed)*

- Fig.3 Potential Impact of Voting model on infrastructure providers

(Creators)	**Metric**
Type of Creators	*Generative Artists, , Video Tutorial makers, Designers & Digital Content Creators*
Channel(s) to acquire CDT Tokens	*Curato DAO market, Liquidity incentives*
Common type of DAO engagement	*Rent or sale of content*
Average duration of participation	*1 – 3 months*

- Fig.4 Potential Impact of Voting model on Creators

4. Challenges and Risks

Until recently, Web3 has been in its "gold rush" era. The global macro-economic events have also taken a turn for the worst, which has already had a profound impact on the Cryptocurrency and Art market's alike. We'll look at some of the key challenges and risks to consider when implementing the Curato DAO, summarised as follows:

Challenge	Risk	Potential DAO Mitigation
Prevalence of Web3 scams	Lack of participation by the Community	Incentivize community verification
Security and Hacking	Destruction of Value in the Ecosystem	Best-in-class protocol design
Lack of Technical proficiency	Limited application of ideas	Innovative educational and activation campaigns
Quality of Creative Content	Limited growth of the overall Web3 art/culture space	Structured on-boarding programmes for Creators

- Fig.5 Potential Challenges and Risks facing Institutions

5. Conclusion

Given the ever evolving nature of technology and the arts, potential for large-scale shifts, not only in the curatorial systems of vetting artworks and in the role of time-based media art conservators, but also in the sturdy efforts of artists to create economic sustainability, we find ourselves presented with a great opportunity (accompanied by even greater perceived risks) to reshape global arts and culture practices.

We've already seen a steady rise of NFT sales through traditional channels in Europe and Asia, however; if DAOs are going to complement this growth-momentum there needs to be a much broader sense of participation by Creators and Infrastructure Providers while paying particular attention to Security and Technical Proficiency challenges. Another key consideration for DAOs is the impact of regulation as digital assets become increasingly scrutinized by regulatory authorities[4].

For Curato DAO, the innovative voting model will seek to incentivize participants based on their activity and prevent malicious behaviour by well resourced or established participants. In this nascent space, some kind of standardization in the level of Technical competency will also go a long way in including the incumbent institutions to at least pilot a strategy to explore the benefits of a fully digital and autonomous solution! Onwards and Upwards...

5. References

1. https://medium.com/@wac-lab, ‘NFTs in Art’
2. Maria Berbosa, 13/08/2020, https://brainpickings.org/
3. Lin William Cong, Ye Li, Neng Weng,”Tokenomics: Dynamic Adoption and Valuation”, NBER Working Paper Series, May 2020
4. Stylianos Kampakis,”Three Case Studies in Tokenomics”, UCL Centre for Blockchain Technologies, University College London, UK. 2018