CCC: A DAO Protocol to Organize Creator-Centric Communities

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1. Overview

The creator economy is considered to be one of the main areas of biggest opportunity for a revolution through decentralization and web3. While creators mainly make money from advertisements, it is often not enough to make a decent livelihood, causing them to look towards other channels of revenue. One of these channels is starting a subscription-based community on social media platforms like YouTube or on a third-party platform such as Patreon, which allow fans to directly support their favorite content creators through monetary contributions in return for benefits such as community membership and exclusive content. However, these platforms require creators to pay out of pocket to start a community, take a cut from fan donations to content creators [7], and may be untrustworthy from a privacy standpoint because they track and store user data [16]. Thus, the current system is both unfavorable to fans, who may not want to pay or are not financially capable of paying a recurring subscription fee, and creators, especially those who are just starting out and may not be able to start a community due to their small fanbase size.

The aforementioned drawbacks can be easily solved within a DAO, since fans can invest however much they would like in the form of buying the creator's token, and creators of any size can start a DAO in proportion to the size of their fanbase. Thus, we introduce CCC, a DAO protocol for creator-centric communities that will allow people to invest in the creator and the creator's future activities. With decentralized and autonomous decision-making, creators and fans can interact constructively to provide a better experience for all parties involved. Furthermore, by building the DAO on the Ethereum blockchain, all data and information on the platform will be transparent, and not only will fewer fees be collected from fan contributions compared to other centralized alternatives, but also they will be used to directly support fan-initiated proposals on the platform.

2. Structure

The CCC DAO consists of individual creator SubDAOs and the MainDAO, which governs the overarching platform that hosts the SubDAOs [2]. The purpose of the MainDAO is to decentralize decision-making for all users across the CCC DAO, including decisions that concern adding features to the DAOs, adjusting default token allocations for creator SubDAOs, and utilizing the MainDAO treasury. Users interact with the MainDAO via the CCC governance token, while each creator's SubDAO has its own unique token, which will be minted by the creators themselves. Fans of particular creators can purchase the tokens of their favorite creators to support them monetarily and gain access to exclusive community features. In return, they may benefit economically, as they would with any other token investment, if the value of the creator's token increases along with creator growth and fanbase growth, and clearly the early tokenholders would gain the most benefits.

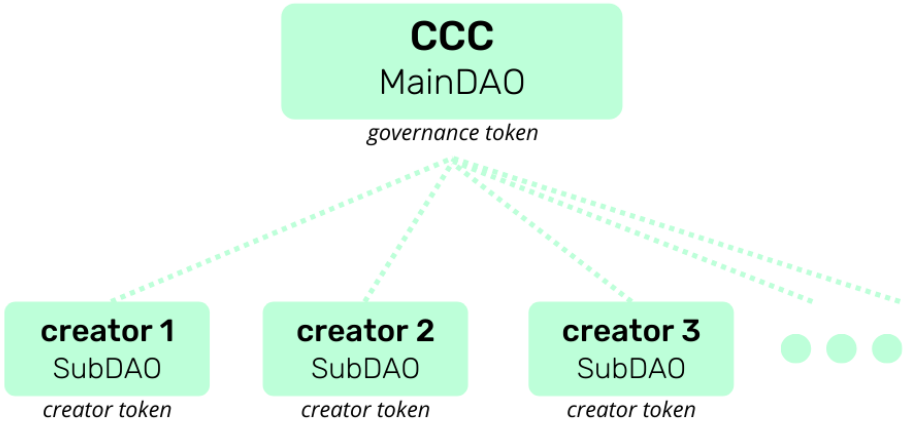

Figure 1. CCC DAO structure

3. Tokenomics

There are two distinct types of tokens in this DAO protocol: the first is the CCC governance token for the MainDAO, and the second is the individual creator SubDAO tokens, which we will refer to as creator tokens. Since the two types of tokens have different allocation mechanisms and considerations, we will discuss them separately, beginning with creator tokens.

3.1 Creator Tokens

Creator SubDAOs must have a total supply of 1,000,000 creator tokens as dictated by the CCC DAO protocol, with no possibility for future inflation. The token allocation is as follows [18]:

- Creator stake - 20% will eventually end up in the creator's wallet
- Public distribution - 50% will be made available for purchase by the general public
- Liquidity rewards - 15% will incentivize users to provide liquidity in decentralized exchanges
- Proposal funding - 10% will be allocated to be spent by tokenholders
- DAO operations - 5% will be allocated to go into the CCC DAO treasury

At the creation of a SubDAO, the creator will mint all 1,000,000 tokens that make up the total supply via our platform. While tokens allocated to liquidity rewards, proposal funding, and DAO operations are available immediately, tokens allocated to the creator and public distribution are initially locked and are distributed over time. Specifically, tokens will be distributed to the public on a monthly basis where the creator can designate a single day and time of the month when 1/12 of those tokens will be unlocked each month up until the end of the first year. This allows the creator to sell tokens to new fans who may notice them after the ICO and also allows them to raise more money should the token value increase significantly throughout the year. One year is an appropriate duration in which the creator can experiment and pivot their content direction in such a way to attract more subscribers. However, after one year, the creator can no longer mint any new tokens and the supply of the token cannot be adjusted. In the future, if the creator's fanbase experiences explosive growth, the token can always be split to allow the corresponding increase in fans to participate in the SubDAO.

The distribution of each SubDAO's token involves an initial coin offering (ICO) [5]. The price of a creator's token during their ICO is determined by a hard cap which is specified by the creator (i.e. how much they want to raise), and this hard cap is constrained by the number of followers that the

creator has determined using oracles (described later). The maximum hard cap a creator can ask for is based on the following mapping between ranges of amount of followers and size of hard cap:

- 10-30k followers: $2-5k
- 30-60k followers: $5-10k
- 60-150k followers: $10-20k
- 150-500k+ followers: $20-40k

Creators that fall within each range can specify a maximum hard cap indicated by the corresponding price ranges, linearly proportional within the range to their real-life follower count. For example, a creator with 45k followers can specify a hard cap up to $7.5k, since 45k is halfway between 30-60k and $7.5k is halfway between $5-10k. To determine the ICO price of each token, this hard cap is first divided by the initial token supply in circulation, which is 1,000,000 * 0.7 / 12 = 58,333.333 (70% represents the combined portion of token supply allocated to the creator and public distribution and 12 comes from the fact that tokens are released on a monthly basis). Then, in this example, the maximum token price at ICO would be $7500 / 58,333.333 ≈ $0.128. These ranges were chosen based on the expected revenues for creators with fanbases of various sizes, and the initial raise from an ICO is meant to fund the creator's projects as well as provide a supplementary revenue stream, while owning the token itself is a long term investment for both the creator and their fans. In particular, this pricing scheme aims to allow small to medium-sized creators to focus on producing high-quality content and promoting growth and community engagement while benefiting from financial relief. Lastly, the hard cap is also intended to protect fans from being extorted by the creator initially setting their token at an unreasonably high price.

Early holders of a creator's token are incentivized to provide liquidity for the token via liquidity rewards. Each creator's SubDAO will have a creator token/ETH liquidity pool listed on UniSwap V2 [14], and tokenholders can stake their tokens in a built-in staking module on the CCC

platform [13]. Rewards are distributed proportionally to the proportion of tokens each tokenholder has staked and can be claimed directly into the tokenholder's wallet. Each creator's SubDAO also has tokens allocated to partially or fully fund proposed ideas that have been accepted via the governance mechanism. These funds can be unlocked by the CCC MainDAO management team, who provide support for facilitating community engagement within creator SubDAOs.

3.2 CCC Governance Token

While each creator has their own DAO and underlying creator token, to support each of these SubDAOs we have created a MainDAO which is supported by the underlying CCC governance token. The main purpose of CCC is to act as a decentralized mechanism for governing the platform that hosts these SubDAOs, primarily through the creation and execution of proposals by tokenholders who are invested in the future of the creator economy on blockchain. As people are usually fans of multiple creators, the CCC platform encourages cross-community interactions not only through the facilitation of token exchanges, but also by supporting proposals that bring together various fanbases for a common purpose such as a fundraising goal or hosting an in-person convention.

The tokenomics of CCC differ from that of the individual creator tokens due to their differing goals, with CCC being primarily for proposals and maintaining the platform itself, while a creator token is the public's investment in the creator and a voice in discussions relevant to the future of the creator. The total supply of the CCC token is finite at 100,000,000 total tokens, and the token allocation is as follows:

- Team and investors - 20% is held by the team of people working to maintain CCC
- DAO treasury and operations - 25% goes towards the value of the DAO itself and supports the day-to-day operations of the DAO
- Public distribution - 30% will be made available to the public
- Liquidity rewards - 15%, to incentivize tokenholders to participate in providing liquidity

- Proposal funding - 10% allocated to be spent by tokenholders on proposals

The public distribution of the CCC token will be through an initial coin offering (ICO) on exchanges with 10,000,000 tokens (one-third of the total allocation for public distribution) at the price of $3.00 with the initial goal of raising $30,000,000 for the MainDAO. There is no vesting schedule for public tokenholders. The leadership team working to support the CCC DAO and investors in the DAO will divide the 20% total allocation amongst themselves, and they can vest their stake after a 12-month cliff period followed by a 3-year monthly vesting schedule. A quarter of the token supply is stored in the DAO treasury and will be used for DAO operations, allocated based on approved governance proposals. Lastly, the allocations for liquidity rewards and proposal funding have similar use cases as with the creator SubDAOs: tokenholders will be able to provide liquidity through a CCC/ETH liquidity pool listed on UniSwap V2, and approved proposals can access funds specifically allocated for those projects.

4. Governance

Users can participate in the governance of the DAOs in two forms: MainDAO governance through CCC tokens or creator SubDAO governance through creator tokens. In both forms, the two main players are creators and fans. Sponsors and advertisers, while a vital component of the creator economy, do not play a role in our protocol. They may interact with the content creator on the platform of their choice, while our DAO is solely formed between the creator and the fanbase.

4.1 MainDAO Governance

Our MainDAO relies on a token-based delegated governance system. CCC—the governance token—allows those who hold it to vote on changes to the DAO protocol or structure or propose new DAO activities. The CCC tokenholders can vote directly on proposals or delegate their tokens' voting power to someone else who they feel will best advance the interests of the DAO. Some example proposals include the following, but is far from being an exhaustive list:

- creating SubDAOs that bring together multiple creators in a specific category; examples include a Gamers SubDAO, Minecraft SubDAO, Lifestyle SubDAO, Traveling SubDAO, etc.
- creating an incubator that sources and supports up-and-coming creators (i.e. with less than 10k followers), and provides training for creators already on the platform
- allocating funds to develop other technical functionalities for the platform, such as adding a donation button or in-platform messaging service within each SubDAO's website
- preventing some creators from entering the platform if necessary

4.1.1 Proposal and Discussion. Individuals can create proposals on CCC's Governance Forum, which aims to establish a consensus on the community's sentiment before proceeding to the voting process and is hosted on the overarching platform. The proposal should consist of the following fields:

1. Title
2. Summary: Describe what this proposal is about
3. Motivation: Explain why this proposition is worthwhile to CCC
4. Implementation: Explain the proposed steps or other technical details (if applicable)
5. Rationale: Provide a clear understanding of why your proposal is a good idea (pros and cons)
6. Budget: Explain the required budget to implement the proposal

The discussion for each proposal will happen through CCC's Governance Forum. The proposal author should engage with members of the community who have questions about his or her proposal. If the proposal goes inactive for more than 7 days, it will be automatically closed. After an appropriate time, the proposal author can choose to close the proposal for further improvement or proceed to vote.

4.1.2 Voting. The users with voting power will vote on the proposal on an off-chain voting platform called Snapshot to avoid gas fees. The voting will be considered valid only if the proposal involves more than 50,000 CCC tokens. If a proposal receives a majority of the votes, the proposal will be implemented by a multi-signature wallet (refer to the operation section for more details).

4.2 Creator’s SubDAO Governance

Within each creator SubDAO, fans and creators share an aligned interest in the creator's success. Creators have a vested interest in ensuring that their content is high quality and their brand reputation is stable, not only because the value of their token fluctuates according to public perception of the creator (otherwise known as “hype”), but also because a well-created piece of content signifies greater potential for the creator to rise to new heights, thereby attracting more existing fans and potential fans alike to purchase tokens and join the creator’s DAO. Additionally, creators are financially incentivized to participate in their SubDAO in two ways: 1) they can address short-term revenue needs through an NFT drop and token vesting; and 2) they can also accomplish large-scale projects through crowdfunding from tokenholders, where the platform acts like Kickstarter but on the blockchain and the CCC DAO does not take any cuts other than transaction fees due to the exchange of tokens. Meanwhile, the SubDAO governance system serves as a means for creators to interact with their fans and for fans to meet with and communicate with each other. The fans can propose and vote on specific content they would like to see their favorite creator take on or any activities that they would like to organize the entire community around. These interactions foster a community between creators and fans and increase fan loyalty to the creator. Again, creators and fans alike can initiate proposals--both groups may propose collaborations with other artists and host in-person gatherings, while creators may specifically fundraise to create content specific to raising awareness about social issues or create an NFT collection, and fans may specifically fundraise to donate to social causes in the name of the creator or create physical fan-made merchandise.

Our protocol will allow each creator to set their own governance rules under the supervision of the MainDAO. The creator might choose to add or delete required fields in proposal details, disable delegation, adjust involvement rate or passing threshold for proposals, change the discussion platform, or adopt a weighted voting or quadratic voting scheme. The creator can also choose to adopt the default SubDAO governance infrastructure, which is the same as the MainDAO mentioned above.

Note that the proposal voting in SubDAO should still happen on Snapshot. Once the proposal passes, the CCC management teams will ratify and help execute the implementation if needed.

5. Operations

The ideal manifestation of our theoretical DAO protocol is in the form of a dApp that will provide an intuitive interface for creators to launch their DAOs and respective tokens. This web application will serve pages that display each creator's token and provide spaces for creators and their fans to interact on the platform with the goal of fostering creator-centric communities.

To realize this DAO project, we would first obtain the necessary venture capital funding to start the basic development of the smart contract. Our project would be built on the Ethereum blockchain to take advantage of its decentralization, speed, and smart contract support. As a result of building on top of the Ethereum blockchain, we would use the ERC20 standard to create the smart contracts for the CCC token and the individual creator DAO tokens [3, 4]. In addition, we would create the necessary functions to support our DAO such as transfer, proposal creation, vote, and approval. To manage tokens, we would require that creators and fans use existing wallets such as MetaMask or ZenGo due to their robustness and built-out features [1, 15].

The next step would be to build out the other supporting components of the project, such as for token pricing. We would rely on oracles and social media APIs to integrate parameters such as the estimated revenue and number of followers into the token price. The oracle we would use is API3, which is a first-party oracle solution that can call any web API [17]. The APIs that we would use would differ on a case-by-case basis depending on the social media platform that the influencer is based in. For instance, if a YouTube influencer is using our platform, we would call the YouTube Analytics and Reporting API which contains information such as estimated revenue reports and the number of followers [6]. These aspects will be incorporated into the token pricing for all of our ICOs.

One concern we have for our protocol is that because tokens are bought and sold in the free market and their price will be heavily influenced by the success of the creator, creators may

inappropriately collude with others for financial gain in a manner similar to insider trading. Since wallets can be created anonymously, creators may even be able to create new accounts in order to hold publicly distributed tokens and buy/sell tokens given an unfair advantage of information. While this delves into the realm of regulatory interventions, it is important for holders of tokens to keep this in mind, since it may impact them financially. To provide due diligence on our end, we would continuously manage influencers and members under two separate systems. In the case of scams by creators and other fans on the platform, we dedicate 10% of our DAO treasury to repay those affected and fund legal action against the responsible parties for violating our terms of use. Any influencer with greater than 10,000 followers on any media platform is able to start their own DAO through our platform, but we use a "Know Your Customers" (KYC) system to verify their identities. The 10,000 followers limit is in place to ensure that only influencers with an existing active community can start a DAO on our platform. The combination of the follower count requirement and KYC creates an incentive structure where the influencer has a substantial community to be disincentivized to engage in actions for financial gain, and at the same time, the centralization and transparency of a KYC system such as Google SSO greatly deter any questionable activity and also assures users that if questionable activities were to occur, our platform would have the necessary information to remedy them [7]. To continuously manage fans, we take a decentralized approach and allow users to remain pseudo-anonymous, i.e. they only need a wallet to join the platform.

To manage our assets, we use a combination of non-custodial wallets and decentralized exchanges. Our multi-signature non-custodial wallet on Metamask connected with Gnosis Safe, a multi-signature solution, would maintain the DAO treasury, which consists of CCC tokens and Ethereum that can be deployed for the benefit of the DAO [1, 9]. To facilitate exchanges between CCC or any of the individual SubDAO tokens and ETH, we would integrate decentralized exchanges such as Uniswap into our platform so that users can go from Ethereum to their token of choice or vice versa [11]. To ensure no central, single point of risk for our treasury, this wallet has 9 distinct keys and

the majority are required to unlock funds. These 9 keys are distributed among core members of the CCC team and VC backers, and we follow best practices to never store keys together.

6. Future Work

Besides the aspects described above, numerous other extensions are possible with our DAO framework. First, we can create an incubator for budding creators. Perhaps they want to expand their fan base to other media platforms, or perhaps they want to start garnering interest in the web3 community. These creators would have access to a wide network of SubDAO creators as mentors. Another very relevant future work for our project is the creation of an NFT marketplace exclusively for content-creator NFTs. It differentiates our platform from others like OpenSea and also contributes to fostering community within our application. Lastly, we hope to develop an in-platform exchange to easily exchange between creator tokens and CCC with no additional fees. The gas fees would be paid for by the DAO treasury, and the purpose of this implementation is to allow easy exchange between the CCC token and the individual DAO tokens. It would allow fans to move between creators and invest in multiple creators without any financial barriers.

7. Conclusion

This paper includes the structure, tokenomics, operations, and security considerations of the CCC DAO, a DAO protocol for creator-centric communities created to foster investments in creator activities as well as decentralized and autonomous decision-making in content-creator fan-bases. With a unique DAO structure targeting the yet-to-be decentralized creator economy, we hope to transform the interaction between content creators and fans in the rising web3 world.

Appendix Figures

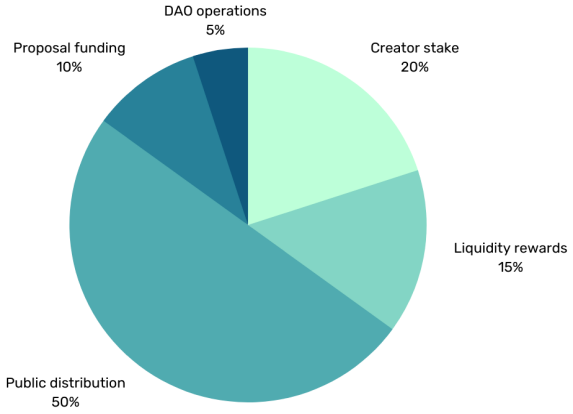

Figure 2. Token allocation for a creator SubDAO token

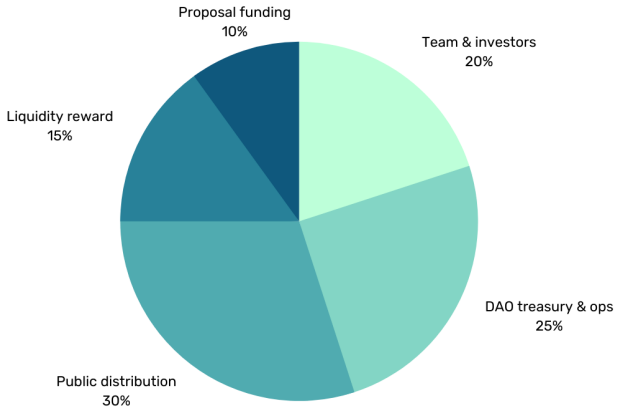

Figure 3. Token allocation for the CCC governance token of the MainDAO

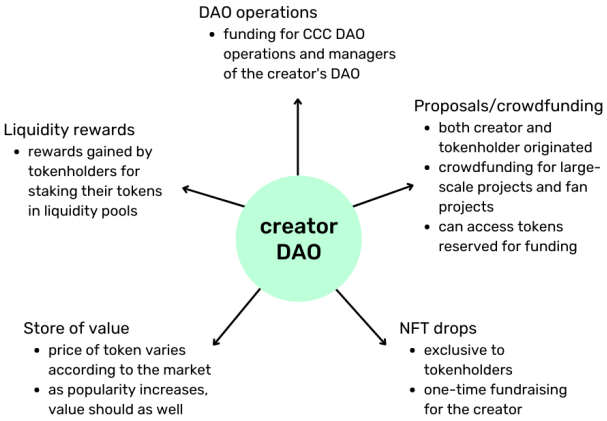

Figure 4. DAO organization and arms of operation

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