

A Hybrid Decentralised Autonomous Governance Protocol For Decentralised Financial Service Applications

Whitepaper v1.1

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Abstract

The foundation of a centralised enterprise can be thought to be built with three of its founding members' views in mind – their view of their present and future lives, their view of their inherent values and priorities, and their view of the world. In a decentralised enterprise however, the shaping of the enterprise is based on consensus by the community; in essence, the community builds the enterprise together with the founders, shaping it in a way that encompasses the values, foresight and ambition of everyone involved¹. In a centralised economy, there is always a conflict of interest between the service provider and the user of the service; for a decentralised economy, the business model is jointly developed, maintained and governed by the same community members, thus resolving the issue of conflicts of interest. Blockchain technology has the potential to change business models without the need for trust between all the parties involved².

As the market capitalisation of digital assets in the cryptocurrency industry increases, its inherent problems are amplified accordingly. Digital tokens have experienced exponential growth thanks to the launch of the Ethereum network, which is nurturing a rapidly growing ecosystem of applications, raising capital by issuing tokens in exchange for Bitcoin or Ethereum. Given the complexity of some initial coin offerings (ICOs), transparency is often compromised during the fundraising process³, undermining the founding philosophy of blockchain technology, which holds transparency as its top priority.

There has been some blockchain platforms that seed and nurture a community dedicated to the launching, backing and promotion of new projects proposals through a fluid organisational model referred to as a Decentralised Autonomous

Organisation (DAO). DAOs implement self-determining and independent organisational governance, management and operations using immutable blockchains and smart contracts execution⁴. However, DAOs also face complicated business environments; for one, DAOs have a lower efficiency in fund raising and governance⁵. Fully decentralised autonomous organisations cannot meet compliance requirements either, and investors sometimes become victims of scams due to exploited loopholes found in DAOs⁶. Therefore, HyperDAO believes a gradual transition programme from a traditional centralised business model to a decentralised model will help to resolve current difficulties while also overcoming obstacles HyperDAO will meet along the way. HyperDAO believes that given the current needs of the market, now is a good time to begin building the foundation of decentralized financial services platform that can provide our community and partners with more ways to reap the benefits of decentralised finance.

Introduction

HyperDAO is committed to creating an efficient, transparent and achievable autonomous digital asset financial ecosystem that serves as a one-stop platform for all your financial needs. HyperDAO will gradually transform its existing centralised business model into one that is decentralised and governed by our community members. By implementing the concepts of decentralisation and community governance, HyperDAO will take a step towards a truly decentralised society, one in which decision-making processes are both transparent and autonomous. All members of the HyperDAO ecosystem will be witnesses and contributors to the evolution towards full decentralisation.

1. HyperDAO SC (Stablecoin) System

1.1 Solving current issues using the HyperDAO SC System

Since the birth of bitcoin in 2009, the cryptocurrency industry has seen exponential growth. From a mere fraction of a cent ten years ago⁷, Bitcoin saw a high of almost US\$20 000 in 2017 before crashing down to the low US\$3000s a year later. This hasn't been the first time Bitcoin and the whole cryptocurrency industry crashed too. In fact, Bitcoin has dipped more than 55% from its highs approximately five times since 20118. Interestingly as well, the most recent crash in 2017 was not the worst⁹. Undoubtedly, the industry withstood the ebb and flow of the market throughout the years for good reason, people see value in the technology. The industry continues to grow fundamentally; a major focus area is the financial and payment services sector¹⁰. There was a time when cryptocurrencies were being idealised as good stores of value, but now, the dream of using cryptocurrencies for every day payments is inching closer; take the launch of Libra by Facebook for example. However, with all the development and focus on the industry now, prices of popular cryptocurrencies are still unable to stabilise and are still prone to violent fluctuations as we have seen time and again¹¹. Therefore, a need of a cryptocurrency that has stable value becomes apparent, and while there have are plenty of stablecoins such as USDT or TUSD on the market, there hasn't been one that offers users flexibility in terms of collaterisation¹².

Unlike other Stablecoins who are tied to a certain fiat currency, the HyperDAO Stablecoin (Hyper) is flexible and allows users to collaterise digital assets in exchange for Hyper that can be pegged to a variety of fiat currencies; for example, the HyperDAO SC system could mint Hyper-USD, Hyper-EUD or Hyper-CNY etc. HyperDAO has already built out the infrastructure capable of

supporting Hyper including a wallet and dedicated exchange that will allow users to purchase, deposit, withdraw and trade Hyper. A similar mechanism is achieved by MakerDao, the difference is that MakerDAO only supports Ethereum assets¹³ collateral while HyperDAO's crosschain platform already supports most digital assets. HyperDAO acknowledges that MakerDAO has created a comprehensive collateral-backed stablecoin mechanism which HyperDAO wish to draw ideas from and further improve on¹⁴.

1.2 Pricing Structure and Mechanism

1.2.1 Collateralised Debt Commitments System

Collaterised Debt Commitments (CDCs) within the HyperDAO platform work in somewhat similar ways to Collaterised Debt Obligations (CDOs) that we often see in traditional finance markets. They are essentially structured credit products that are pooled together using valuable assets¹⁵; in this case digital assets, which are packaged into a product, which in HyperDAO's case, generates a certain amount of Hyper-Fiat, e.g Hyper-USD or Hyper-EUR. Users who wish to generate Hyper-Fiat tokens can collaterise their digital assets with the HyperDAO platform through the CDCs smart contract management system. Users lock digital assets into the system in order to obtain a loan equivalent to 2/3 of the collateralised assets; the current collaterisation ratio is 150% but can be voted to increase or decrease by users on the platform in the future¹⁶. The reason behind the CDCs having to maintain a value higher than that of the value of the debt is to account for potential liquidation situations. In order to retrieve the collaterals that was locked in, users have to repay their loans plus some fees.

Example 1:

User A locks 5 BTC into the CDC system since he wants to generate Hyper-USD. At the time of the deposit, a BTC is worth 9000 USD, meaning User A has locked up 5*9 000= 45 000 USD. User A is now able to generate a loan of Hyper-USD equal to 2/3 of the collaterals deposited into the CDC system, that is 2/3*5(9000) =30 000 Hyper-USD.

One year later where BTC price is 12 000 USD, User A wishes to retrieve his locked collaterals, he does so by repaying 30 000 Hyper-USD plus some fees. He can now retrieve his 5 BTC deposit which is now worth $5*12\,000 = 60\,000$ USD.

In the case that BTC price falls below 9 000 USD, the user will have to ensure that the collaterisation ratio remains at 150% or higher or he will have to risk having his CDC liquidated. In this case, say BTC falls to 7 500 USD, the collaterisation ratio will fall to (5*7500)/ (2/3*5*9000) =1.25. The user can choose to collaterise more assets or forfeit his CDC, after which he will only receive the value of the collaterals minus the debt, loan fee and liquidation penalty. If he chooses to maintain his collaterisation ratio, the system will work out the value of collaterals he has to top up based on the below equation

$$v_t^c = cr * v_d + l_f - v_1^c$$

Or

$$\begin{split} \left[A_t*p_t^A + B_t*p_t^B + C_t*p_t^C \dots\right] \\ &= cr*\left[\frac{2}{3}(A_0*p_0^A + B_0*p_0^B + C_0*p_0^C \dots)\right] + l_f - (A_0*p_1^A + B_0*p_1^B + C_0*p_1^C \dots) \end{split}$$

 v_t^c = value of collaterals required for top up

cr = collaterisation ratio (cannot fall below 1.5)

 v_d = value of debt; $\frac{2}{3}$ of value of v_0^c (fixed after retrieval of debt)

 $l_f = loan fee$

 v_1^c = value of collaterals now

 A_0 = number of assets A at time of collaterisation

 p_0^A = price of asset A at time of collaterisation

 p_1^A = price of asset A now

 A_t = number of assets A to top up (if any)

 p_t^A = price of asset A at time of top up

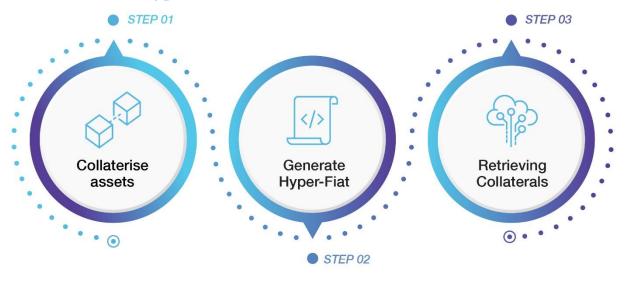
In this case that BTC falls to 7 500 USD, and loan fee is 3% annual

$$v_1^c = 1.5 * 30000 + 0.03(30000) - (5 * 7500)$$

 $v_1^c=8\,400$

He will have to top up 8 400 Hyper-USD worth of collaterals to prevent his CDC from being liquidated.

Exhibit A – The Hyper-Fiat Generation Process



Step 1: Collaterise assets through the CDC smart contract system

User creates a CDC order through the HyperDAO platform, he selects the amount and type of digital assets he will collaterise to generate Hyper. This function is written into a smart contract which locks up his collaterals until he repays his debts or if the CDC is auctioned off for liquidation.

Step 2: Generate Hyper-Fiat

Upon collaterising his assets, the user sends a request to generate the Hyper-Fiat of his choice from the CDC system. This concurrently creates a debt equal to 2/3 of the value of the collaterised assets (at time of collaterisation). The Hyper-Fiat is then generated and retrieved by the user for use.

Step 3: Retrieving Collaterals

Users can retrieve their collaterals by paying down the debt plus a loan fee that accrues over the duration of the debt. Once the debt and loan fee are confirmed to have been paid, the CDC system releases the collaterals to the user.

1.2.2 Risk Parameters of CDCs

Since HyperDAO is able to support multiple collateral types, each CDC type has its own unique set of risk parameters. These parameters are adjustable by HDAO token holders through a voting process.

· Liquidation ratio

Each CDC has its own liquidation ratio based on the make-up of the CDC. The liquidation ratio is essentially the collateral-to-debt ratio where the CDC is deemed risky and might be put up for liquidation. The liquidation ratio can be seen as a market indicator; a low liquidation ratio is expected when Hdao holders see the current market as a low price volatility environment, and vice versa.

· Liquidation Penalty

The liquidation of a CDC invokes a liquidation penalty; it can be thought of as a fine that aims to deter CDC creators from leaving their collaterisation ratio to a level below the liquidation ratio. Proceeds from the liquidation penalty is used to buy up and burn HDAO from the total supply; the excess collaterals is then returned to the original CDC owner.

· Loan Fee

Generating Hyper from the creation of a CDC incurs a loan fee. It is an annual percentage yield that is added on top of the existing debt of the CDC and is to be paid by the CDC owner.

• Debt and Collateral Auctions

In the case when a CDC has to be liquidated, the HyperDAO platform buys the collaterals of a CDC by starting a Debt Auction to raise Hyper to cover the CDC's debt.

A collateral auction is simultaneously happening where bidders can bid to purchase the collaterals of a liquidated CDC. When enough Hyper is raised to fully cover the CDC's debt and the liquidation penalty, the collateral auction switches to a reverse auction where bidders bid for the least amount of collaterals, they are willing to accept for the amount raised, any leftover collaterals are returned to the original CDC owner. This mechanism works in a similar way as that of MakerDAO.

1.2.3 Target Price

The Target Price of Hyper, depending on the Fiat type its pegged to, e.g Hyper-USD or Hyper-EUD, has a soft peg of 1:1, meaning 1 Hyper-USD should at all times approximately equate to 1 USD and 1 Hyper-EUR should at all times approximately equate to 1 EUR. The target price serves two important functions, firstly, it aims to ensure Hyper's stability as a liquid asset, and secondly, it determines the value of collateral assets that Hyper holders receive if there were to be a malicious attack on HyperDAO's infrastructure and triggers the Shutdown Protocol.

1.2.4 Shutdown Protocol

In the case where the HyperDAO platform suffers a malicious attack on its infrastructure, the Shutdown Protocol can be initiated to directly enforce the

Target Price onto Hyper holders and onto CDCs; this means that hyper holders can directly redeem the fiat equivalent of Hyper, E.g 1 USD for 1 Hyper-USD, of collaterals when the Shutdown Protocol is initiated. The Shutdown Protocol immediately settles all loans using collaterals and releases the rest back to their owners. This can be thought of as a forced liquidation process where the platform releases all assets back to the users to safeguard against loss of assets during an attack. The Shutdown Protocol is a decentralised process voted by Hdao voters who will vote to trigger the process by sending Hdao tokens to the Shutdown Protocol smart contract. Currently, the Shutdown Protocol will require 10% of the total circulation of Hdao tokens to be sent to the smart contract to be triggered.

Alternatively, users can also vote for Safety Nodes to represent them; these safety nodes will have the right to independently trigger the Shutdown Protocol if they deem that the situation is appropriate.

There are only three reasons that a Shutdown Protocol should be triggered; first being serious malicious attacks or security breaches that could potentially harm the platform's infrastructure; second being long-term market irrationality that seriously affect collateral prices; or lastly, if the platform is due for a technical upgrade.

Exhibit B – Shutdown Protocol Process



Step 1: Shutdown Protocol is triggered

If the Shutdown Protocol smart contract receives at least 40 000 000 Hdao tokens or if Safety Nodes step in to raise an emergency issue, the Shutdown Protocol is triggered. Creation or modification of all CDCs will be halted. Live price feeds on the platform will freeze at the point of trigger and their last prices reflected will be recorded as the redeemable price to users. All claims are then processed according to the last price and CDC owners will be able to immediately withdraw the net value of their collaterals in the CDCs.

Step 2: Collateral Auction during Shutdown

During the Shutdown, CDCs that are currently in the midst of auction will also need to be cleared since no collaterals should remain on the platform. These collateral auctions will be allowed a longer time than usual to process to ensure that there are no more outstanding auctions at the end of the period.

Step 3: Claiming net asset value of collaterals using Hyper

According to the last price record when the Shutdown is triggered, Hyper holders will be able to redeem the collaterals in their CDCs according to the

target price of Hyper. E.g the current BTC/USD price is 12 000, a Hyper Holder who owns 36 500 Hyper tokens will be able to redeem 3.04166667 BTCs from the HyperDAO platform. The remainder of the collaterals will be returned back to their respective CDC owners. In a multi-collaterals system, Hyper holders will get a proportional claim on each collateral type that exist in the collateral portfolio.

1.2.5 Hyper Interest Rate

The Hyper Interest Rate can be understood as an interest rate in the HyperDAO system which serves similar functions as central banks' interest rates in the economy. As an instrument of price stability, holders of Hyper can deposit Hyper into a Hyper Interest Rate contract to accrue interests based on the current variable Hyper interest rate of the HyperDAO system. It works in a similar way as a savings account with a bank where someone is paid interest for keeping his money with the bank. There are no fees or lock-up periods for using these contracts except for gas fees required for deposit and withdrawal. The Hyper Interest Rate is funded out of loan fees charged for CDCs.

The Hyper Interest Rate is a deliberate design aimed at incentivising holders who help to balance the demand and supply of Hyper. By contributing capital, users provide the platform with liquidity and help maintain stability in the system in the short-term.

As the market fluctuates throughout time, HYPER will undoubtedly deviate from the Target Price similar to how USD can go above or below \$1. In order to maintain the stability of Hyper, the HyperDAO governance can modify the Hyper Interest Rates. For example, if the market price of Hyper-USD is below 1 USD, the Hyper Interest Rate will increase which in turn increases the

demand for Hyper Interest Rate contracts that accrue interests. Similarly, if Hyper-USD rises above 1 USD, the Hyper Interest Rate decreases which negatively affects demand, thus, influencing the market price of Hyper-USD towards the Target Price.

1.2.6 HyperDAO Governance for HYPER

Within the Hyper stablecoin platform, HDAO holders play a significant role in the governance of the system and can vote to execute a number of risk management actions:

- Trigger Shutdown Protocol
- Nominate Safety Nodes
- Nominate Price Oracles
- Adjust Hyper Interest Rate
- Create a new CDC type
- Set the risk parameters of CDCs
- Create governance proposals to be voted

2. HyperDAO CF (Crowdfunding) System

HyperDAO also includes a crowdfunding platform that aims to act as an ecosystem for high quality projects to efficiently connect with potential investors and communities. It is also designed with compliance and security in mind as a platform for the distribution of digital assets. The HyperDAO CF System is already fully functional and will be able to support Hyper-Fiat types as investments.

2.1 Institutional listings

HyperDAO has acquired a crowdfunding platform as part of its efforts to create a comprehensive decentralized financial services platform. The crowdfunding platform has had more than 3 years of experience in helping projects raise funds for their operating needs. With an active userbase of more than 50 000 unique users from more than 50 countries, the platform has helped renowned projects such as SingularityNet, Qash, Cybermiles, INS and IPFS achieve 100% of their funding goals¹⁷. In the last two years alone, they have successfully crowdfunded 52 projects; raising more than 100 000 ethereums and helping more than 80% of these projects reach their funding goals within an hour. As part of the integration of the crowdfunding platform to the HyperDAO decentralized financial services system, HyperDAO seeks to address some of the issues that the platform had previously encountered, namely, the transparency and accountability of the projects after crowdfunding, involvement of various stakeholders including investors as well as decentralisation of the platform through joint decision making.

2.2 Transparency and Accountability

Improving on the platform which saw renowned cryptocurrency projects reaching their funding goals within minutes, the new HyperDAO crowdfunding platform will include transaction data from the crowdsale live from the blockchain. This will provide more transparency and security to customers as they will be able to verify their investments immediately via the live feed. This will also allow customers to track the movement of the funds directly which puts pressure on the institution to be accountable. Understandably, institutions must also have some degree of flexibility in their operations. In this regard, HyperDAO will enforce a percentage lock-up of the

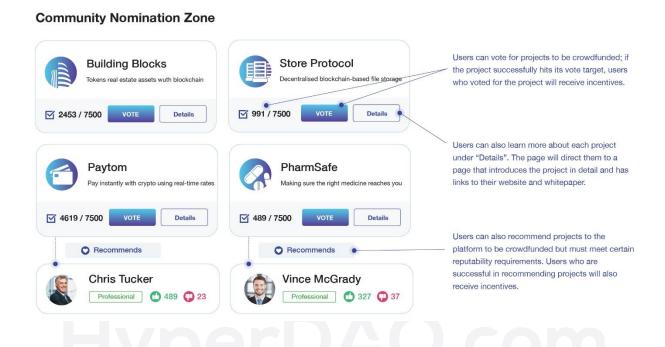
projects' raised funds to be escrowed in our cold wallets. The funds will only be released in tandem as they reach pre-defined milestones¹⁸. In this way HyperDAO takes on the role of guardian of the projects and serves as an intermediary between client and customer. All details of the crowdfund campaign will also be released before hand to ensure that investors are well informed about the terms and conditions of the investment.

2.3 Community Nomination Zone

As HyperDAO gradually transits into a decentralised crowdfunding model, HyperDAO believes that the power to decide which projects get listed should also fall into the hands of the community. As such, HyperDAO has designed a community nomination zone that allows our users to vote for projects to be listed on the HyperDAO platform to be crowdfunded. Users are encouraged to send in projects to be reviewed by the listing committee to determine if they qualify to be put in the community nomination zone. HyperDAO believes that an initial screening is necessary to ensure that only genuine projects are presented to the community to garner votes. This is also implemented in mind to prevent spam or abuse of the platform from users who are not serious about recommending good projects to the platform. The initial screening will pay particular attention to the authenticity of the project and their founding team. Projects that wish to be presented in the community nomination zone must show proof that they are a legal entity and is registered in a jurisdiction recognised by international bodies. The legal entity must also be searchable on the database of its respective jurisdiction. The project will be expected to meet moral and ethical standards to be considered for presentation in the community nomination zone. As a safeguard to our investors, projects are required to pay a one-off fee using HyperDAO tokens as well as stake HyperDAO tokens throughout the duration of their listing on the community nomination zone.

This is to ensure that the projects have a vested interest in the platform and are genuine about listing on HyperDAO. As a commitment to moving towards a decentralised model where the community can be proactive in determining the projects that gets listed, membership tiers and supernodes will be introduced to serve as representatives of the community to take part in decision making.

Exhibit C – Community Nomination Zone User Interface



2.4 Community decision making through membership

HyperDAO envisions a platform where investors and traders alike can come together to contribute ideas, provide constructive feedback and share information about the market as a connected community. As such, HyperDAO are developing a membership system that incentivise users to not only interact with each other but also contribute to the HyperDAO ecosystem through active communication and resource sharing. HyperDAO will be introducing three tiers of membership – User, Trader and Professional membership tiers. Users who want to rise through the ranks to higher tiered members will have to meet

more requirements but will also enjoy exclusive privileges. Our goal is to create a thriving marketplace of ideas and discussions; as such, our members are expected to be actively involved in the development of the platform and should serve as representatives or admins that govern the operations of the platform.

Exhibit D – Membership Privileges by Rank

MEMBERSHIP PRIVILEGES	User	Trader	Professional
Usage of Platform Development Channel	€	€	∀
Voting Rights	€	igstar	≪
Reduced Withdrawal Fees		igstar	⊗
Token Airdrops		\bigotimes	≪
Create Forecast Pools		\bigotimes	\bigcirc
Exclusice Deals			≪
Priority Investments			≪
Private meetups			≪
Moderator Rights			\bigcirc
Recommend Projects			igoremsize

2.4.1 Usage of Platform Development Channel

Users have the right to provide feedback or suggestions to improve or develop the platform, including creating polls and participating in consensus decision-making or voting within the Platform Development Channel. The platform development channel is essentially an online governance forum where decisions regarding changes to the HyperDAO ecosystem is posted and voted by users in a democratic way. Users are also incentivised to give feedback and participate in discussions through a rewards system where voters who

supported the eventual decisions are either given tokens, given exclusive offers or are promoted to admins of the platform.

2.4.2 Voting Rights

All members are given rights to cast their votes on various subjects within the ecosystem, such as consensus decision making on platform development, election of representatives and supernodes, as well as voting for projects to be listed. They will also be able to participate in the forecasting zone where they make predictions about the market including price action, buy and sell targets or amount raised on the HyperDAO crowdfunding platform. These members are rewarded with tokens if their forecast turns out to be correct.

2.4.3 Reduced trading and withdrawal fees

Traders and professional-tiered users enjoy reduced trading fees on the HPX exchange as well as withdrawal fees when withdrawing from the platform's wallet. This is a practical incentive to reward users who have gained reputability or have contributed positively to the platform.

2.4.4 Token Airdrops

Traders and professional-tiered users enjoy token airdrops from new listings or when there are airdrop events promoting their respective projects.

2.4.5 Create forecast pools

One unique area of the HyperDAO platform is the forecasting zone where users can create and vote in polls on subjects within the industry. Traders and

Professional users can create different forms of forecast pools such as the number of votes a project will receive or the price of a token after 3 months. In this regard, users who create forecast pools are essentially acting as brokers and can take a spread (subject to the pools' terms and conditions).

2.4.6 Exclusive Deals

Professional tiered users are offered access to exclusive deals as a incentive for participating and contributing to the platform. These exclusive deals include private sales or discounts not offered to the public. These deals may also be offered by projects that are not listing on the platform but are working in partnership with the platform founders.

2.4.7 Priority access to investments

Crowdfunding sales are usually quickly bought up by investors on the platform and can often be a case of the fastest fingers first. Professional tiered users can enjoy priority queue to invest in projects before the actual crowdfunding campaign starts. Details of the priority access will also be made public before the campaign begins to ensure other tiered users are informed about the investment conditions.

2.4.8 Private meetups

Professional tiered users are invited to exclusive private meetups with project founders or industry experts. These closed-door sessions are good for networking and investment opportunities. Collectively, they are representatives of HyperDAO as community leaders.

2.4.9 Moderator rights

Professional tiered users are given authority to delete/edit abusive comments or remove users from a thread if they are deemed to have engage in improper behaviour. They will assist the management team in moderating the platform to ensure that the platform is free of spam or abuse.

2.4.10 Project recommendation

Another interesting feature of HyperDAO is the capability for users to recommend projects to the platform for listing. Staying true to the philosophy of decentralisation, professional tiered users who are respected community leaders on the platform are allowed to recommend projects to the platform for listing. These users are incentivised if their nominated projects are successfully listed. For example, if the recommended project hits its funding target and is promoted to the crowdfunding platform, the user receives rewards (subject to the projects' terms and conditions). Interests are aligned with users of other tiers because such recommendations directly affect their reputation in the community.

2.5 Supernodes as elected representatives

HyperDAO's community will run under a semi-autonomous mechanism in the early stage until a fully autonomous mechanism becomes realistic. Consensus decision making can first take place through elected community representatives, similar to an election where the people choose candidates to represent them. The community representatives will monitor the transparency of the platform's overall operations, including screening, supervising and recommending nodes to the platform.

Aside from voting for community representatives in elections, users can also nominate supernodes, which are reputable entities such as investment companies, exchanges, wallet providers or other stakeholders in the industry to become part of the HyperDAO ecosystem¹⁹. They will bring with them a wealth of resources and expertise that can help expand and improve not just HyperDAO's ecosystem, but the entire industry.

2.6 Distribution after crowdfunding

Distribution of projects' tokens will be integrated on the HyperDAO platform. This will solve the issue of distributing tokens via intermediaries which carries risks of intermediaries attempting bank runs. Funds raised during crowdfunding are initially locked up in wallets outside the control of the projects' owners and will only be released to them after the appropriate legal paperwork is processed. By doing so HyperDAO ensures that all the investors will receive the right amount of tokens and in a timely manner.

3. HyperDAO AM (Asset Management) System

One issue with traditional financial systems is the inaccessibility to professionally managed investments. These investments are usually only available to the wealthy²⁰ as they will be less regulated, allowing for higher risks which could also bring about higher potential returns²¹. Higher network investors are deemed as sophisticated investors and are thus allowed to invest in higher risk investment portfolios²². For the average investor however, monetary authorities set a high threshold for entry into the investment services space through bureaucratic processes and stringent requirements in order to protect the less sophisticated investors. Bulk of the work fall into managing the

accountability and transparency of investment managers such that they are suitable for investors. With the creation of blockchain technology however, the entire bureaucratic process of delivering specialised investment products to the market can be streamlined through instant transaction data, smart contracts and asset tokenisation. Working with a renowned blockchain-based auditing firm and legal firm, HyperDAO is able to introduce institutional grade investment products onto the platform for users by implementing incorruptible auditing trails and smart contract management through the blockchain. As financial data and contract terms are automatically updated and publicised, safeguards are put in place to ensure that investors are properly protected against fraudulent investment service providers.

3.1 Issues with the current managed investment services sector

Fairly new as an asset class, cryptocurrencies are considered to many as the wild west ridden with fraud and manipulation. Even with increased attention from mainstream media and adoption of cryptocurrencies and blockchain technology by big corporations, at present, the total market capitalisation of the entire industry is still relatively small compared to other asset classes such as equities or commodities which have been around for centuries²³. This puts the cryptocurrency industry in a peculiar position, on one hand, it is too small to spend billions of dollars and hundreds of thousands of manhours to regulate the industry, on the other hand, it is gaining traction so quickly that it is becoming hard to ignore. In this regard, HyperDAO believes that while most if not all of us are supportive of regulating the industry, HyperDAO cannot slow down our pace for regulatory bodies to catch up. This issue especially plagues the managed investments category where professionals are ready to offer managed investment services but have little room to grow due to regulatory grey areas and the resulting cynicism by investors. HyperDAO seeks to address this

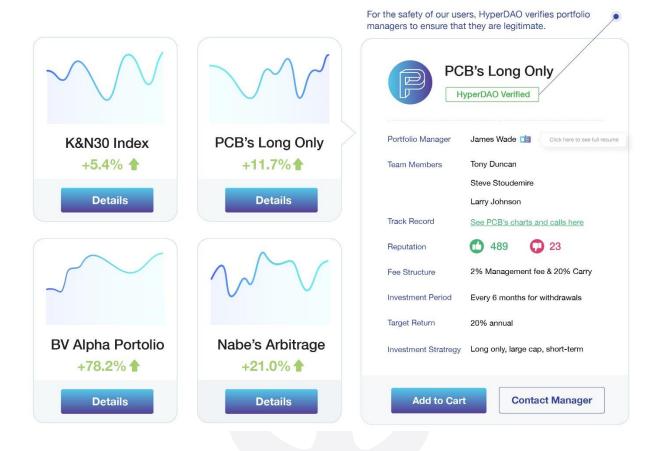
shortcoming in the managed investments sector by becoming a trusted intermediary between professional investment managers and investors. Through a partnership with a blockchain auditing firm and an in-house legal advisory, HyperDAO can help professional money managers connect with investors by enforcing transparency and accountability.

3.2 Platform connecting experts with investors

With the platform upgrade, institutions are now able to offer cryptocurrency investment products such as indexes or sector-specific portfolios through the HyperDAO platform. To qualify, these institutions must first have proof that they are registered entities in a recognised jurisdiction and have the appropriate financial services license offered by their jurisdiction's regulatory body. They must then go through a rigorous due diligence process where information about their operations, manpower and background are screened. The information will also be made publicly available for investors to make informed decisions. The investment portfolios are updated daily to reflect the Net Asset Value (NAV) of the fund in the same way that traditional financial products do on exchanges.

W HyperDAO.com

Exhibit E – Institutional Listings



3.3 Accountability through blockchain audit and smart contracts

Capable institutions that make the cut will be referred to a blockchain-based auditing firm for client processing. They will hand over their Application Programming Interface (API) to the firm who will audit their transactions on blockchain. The transactions will be recorded on a private chain to ensure that the institutions' strategies are not compromised. However, it can be made available to investors through the enactment of a simple smart contract. The smart contract will be written between the two parties, the investment managers and investors, allowing for viewing of the accounts if a predetermined percentage of investors have voted to view the transactions. The voting rights will be issued based on the amount vested, for example, for a USDT-based investment product, a USDT\$1 investment equates to 1 voting

right to see the accounts. However, to prevent collusion amongst larger investors and investment managers, only a limit up to 25% of voting rights can be issued to a single investor, meaning that any investor in the product cannot hold more than 25% of voting rights no matter their investment amount in the fund. This will also be written into the smart contract.

These institutions must also register any purchase agreements with the audit firm and upload the contracts to the blockchain; these contracts can be made available if investors vote successfully to reveal them. While fee structures and carried interest are determined by the investment managers beforehand and acknowledged by investors, specifics of any operating expenses are also required to be recorded on the blockchain.

3.4 Discussion Forum

Another unique aspect of the HyperDAO platform is the Discussion Forum that allows users to share ideas about the investment and trading opportunities. Users can use integrated charting tools to make charts that can be broadcasted to the platform for other users to view. They can share their technical or fundamental analysis of tokens such as future price movements or potential upsides or downsides. Users are also encouraged to give feedback and pass around their own ideas by posting comments. Users are incentivised to put effort in their analysis as publications of their ideas directly influence the platforms' users and have impact on their reputation. Top contributors are rewarded with higher reputability and can be promoted to higher ranks. Reputation (in the form of 'thumbs up' and 'thumbs down') in particular is a deliberated design to encourage users to behave appropriately and contribute effectively to the platform. Aside from having exclusive perks from being highly ranked, users can monetise their reputation by becoming involved in

community elections, running as community representatives, recommending projects and creating forecast polls which all have incentive clauses tied to them.

Exhibit F – Discussion Forum



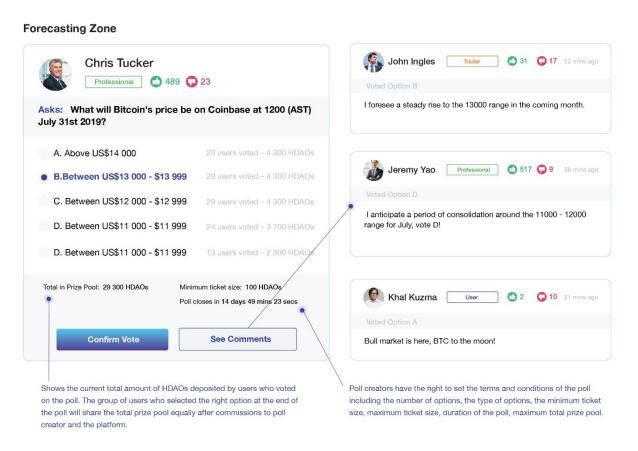
4. HyperDAO FC (Forecasting) System

4.1 Interactive forecast zone as an index of market sentiments

In HyperDAO's FC system, HyperDAO pictures an interactive forum where users can create and participate in forecast polls about market events or price actions in the industry. For example, users can create a forecast poll which polls the price range of BTC in the coming month. For example, the BTC price is currently within the 11 000 USD to 12 000 USD range, a user can create a forecast poll that aims to predict the price range of BTC on 8 August 2019,

giving options such as 10 000 USD to 10 999 USD, 11 000 USD to 11 999 USD, 12 000 USD to 12 999 USD etc. for users to answer. This forecast zone is built out with interaction and decentralisation in mind, as such, HyperDAO encourages users to get creative with their polls by offering flexibility in the types of poll questions. For example, users can create poll forecasting the range of funds collected for a project on the Community Nomination Zone. Once the forecast period is over, the project with the most votes will become listed on the crowdfunding platform to be funded. After the campaign has concluded, the amount of raised funds is read from the blockchain, and the HyperDAO token owners who correctly forecasted the funds raised are rewarded with a share of the prize pool.

Exhibit G – Interactive Forecast Zone



The prize pool is essentially an incentive-based system that rewards participants who forecasted correctly. In order to participate in a poll, users must deposit Hdao tokens into the poll smart contract (a.k.a the prize pool) to be registered as poll tickets. After the poll has ended, participants who chose the correct answer will share the prize pool made up of all the tickets submitted to the pool. Users who answer incorrectly will forfeit their deposited Hdao tokens. This system is designed to encourage participants to conduct research prior to participation and reward them for making well-informed decisions. Ultimately, the goal of the interactive forecast zone is to provide users with data points and be informed about general market sentiments. Collectively, these polls form an index of the market sentiments of the cryptocurrency market.

4.2 Forecast ratings

Beyond just rewarding correct forecasters with rewards from the prize pools, the HyperDAO interactive forecast zone provides users an avenue to monetise their prediction skills through forecast ratings. Individually, any user who participates in a forecast will have to accept that their answer will be recorded on the blockchain and assigned a score which generates their forecast rating. For example, if a user participates in 10 forecast polls and has selected the answer right 4 times, then he or she will have a 40% forecast rating. This system further discourages users who do not take forecast seriously or is attempting to influence forecasts to benefit their own interests. By introducing forecast ratings, users can gain a reputation for themselves as reliable forecasters and become a key opinion leader on the platform. By collectively earning a reputation across different areas on the HyperDAO platform, these users can even set up their own their own portfolios for others to invest in. Gains and losses of forecast ratings is also influenced by the number of tokens owned by the user; users with higher number of tokens gain more rating on the right

forecasts, and lose less rating on wrong ones compared to the other users who have less number of tokens. In order to prevent spamming and to power the HyperDAO poll smart contracts, each action on the platform will require a token fee; these include actions such as sending tokens and forecasting. This may be changed in future stages.

4.3 Reward models

Aside from prize pools, HyperDAO also proposes another reward model for projects within the Community Nomination Zone. The reward model is one where successful projects which transited from the community nomination zone to the crowdfunding platform can set aside a portion of their tokens as rewards for nominators and participants of forecasting. Projects will be ranked according to the number of forecasts it receives, and how dispersed (or scattered) these forecasts are. The more token owners participating in the voting of the project, and the more spread their forecasts are, the higher the rank of the project will be; the nominators and voters of the projects will in turn receive tokens at the end of the crowdfunding campaign. Token owners who participated in the forecasting of highly ranked projects will also gain a higher number of tokens relative to lower ranked projects, provided that their forecasts are correct.

5. HyperDAO Exchange System

An integral part of the HyperDAO ecosystem is the HyperDAO Exchange System (HPX) which will provide liquidity and become the dedicated marketplace for Hdao and Hyper tokens. The exchange provides a comprehensive trading service which includes both token-to-token and fiat-to-token trading pairs. For example, HPX currently supports trading of many

mainstream digital assets such as BTC, ETH, EOS and HC amongst others. It is also one of the few exchanges that allows spot trading services in RMB. HPX is especially focused on user experience, having built its own Android and iOS applications in-house for users to transact on the go. It also boasts a low 0.1% transaction fee and free withdrawal of fiat currency. There is also a 24/7 dedicated customer service for addressing issues that users may have. All these attention to user experience is deliberate as HPX wants to build a strong customer base using its brand name as a trusted, thoughtful and customer-minded exchange platform. As the HyperDAO platform develops, the HPX customer base will gain early access to the entire range of products available in the HyperDAO ecosystem; a win-win for HPX users as well as new users of the HyperDAO platform. An exciting feature of HPX that will be developed in the future is the ability to trade between Hyper-Fiat pairs. For example, users will be able to trade Hyper-USD/Hyper-EUR or Hyper-USD/Hyper-CNY on HPX much like a traditional forex market.

6. HyperDAO Banking System

Aligned with HyperDAO's vision of providing a comprehensive decentralised financial service platform, HyperDAO recognises that there is a lot of potential in blockchain and cryptocurrency for the banking and finance sector. Traditionally, if people wanted to borrow money or send money across countries, they would have to open a bank account with a bank, incur hefty interest rates for borrowing and pay high transactions fees to remit money²⁴. In this system, the less financially capable people are often put at a disadvantage or are less prioritised because banks do not see them as valuable customers. The legacy systems of banks that have been built over centuries are also slow and unreceptive²⁵; it often takes days to complete an overseas money transfer. These transfers are also often ridden with problems such as breakdown of

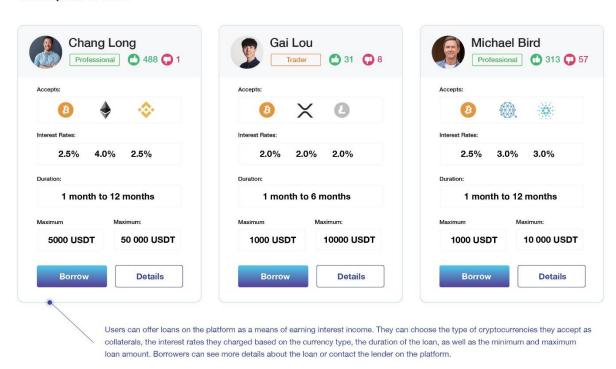
communication between banks when performing clearing. Similarly, loan approvals can take weeks to be completed because of bureaucratic paperwork and slow due diligence processes²⁶. With the onset of blockchain technology, people are able to send funds across countries instantly and at a fraction of the costs that banks charge²⁷. Loans processes can also be streamlined with the advent of smart contracts, allowing borrowers to receive funds more quickly. The probability of defaults can also be reduced through a collaterisation model.

6.1 Peer to Peer loans

Given the pace that cryptocurrencies are growing, many long-term investors in the industry continue to see the value of their holdings increase over time. However, due to lackluster development of cryptocurrency payment solutions, many investors express concerns over the inability to spend cryptocurrencies freely at merchant stores; these cryptocurrencies are often left in wallets to appreciate in value over time. HyperDAO sees this as an opportunity to allow cryptocurrency holders to generate passive income. HyperDAO will be introducing Peer to Peer (P2P) loans to the platform which allows users to deposit their holdings with the platform to be lent out to borrowers. Doing away with traditional credit scoring and stringent background checks, borrowers simply collaterise their cryptocurrency holdings in exchange for HyperDAO stablecoins that they can easily convert to fiat with our partner exchanges.

Exhibit H – Peer-to-Peer Loans Marketplace

Marketplace of loans

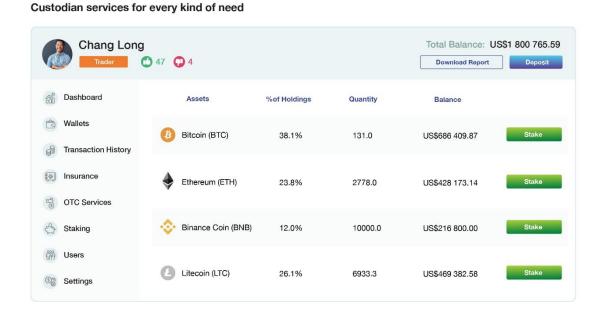


6.2 Custody services

As an alternative to traditional custodian services with banks which often charge hefty fees, HyperDAO offers institutions and individuals custodian services to securely deposit their cryptocurrencies with the platform. Having years of experience managing large amounts of cryptocurrencies, HyperDAO, with its in-house security arm, has designed and refined an assets management system which utilises hot, cold, and multi-sig wallets. Depending on the requirements, HyperDAO is able to tailor any custodian solution that meet the needs of the client. E.g clients who wish to safekeep their assets for a prolonged period of time can safely secure their assets with our cold wallets which are kept in a secure location. For clients who require some liquidity and flexibility in their operations but still want to keep their assets securely can opt for a hot

and cold wallet management system. HyperDAO is also able to provide instant liquidity to clients while keeping their assets safely in cold wallets. For commercial transactions which require a custodian intermediary, HyperDAO's legal arm is also able to write smart contracts that allow two parties to engage in financial transactions in a trustless way.

Exhibit I – Peer-to-Peer Loans Marketplace



6.3 One-stop shop for banking products

HyperDAO has partnered with comprehensive wallet service HyperPay which allows users to securely store their cryptocurrency holdings through the HyperPay app. HyperPay is particularly impressive because they allow the creation of both hot wallets and on-chain wallets. Users are able to choose the wallet option that fits their needs. The wallet service also offers banking products such as staking, participation in mining pools, and automatic investment plans.

Exhibit J – Proof-of-Stake Programmes

PoS Reward

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HC(Hcash)	06/28/2019	267718.462	436.325	0.01206%
QTUM DASH	06/27/2019	267282.137	435.201	0.01206%
	06/26/2019	266846.936	434.989	0.01206%
	06/25/2019	266411.947	433.303	0.01206%
	06/24/2019	265978.644	432.232	0.01206%
	06/23/2019	265546.412	434.458	0.01206%
DCR	06/22/2019	265111.954	433.733	0.01206%
	06/21/2019	264678.221	432.910	0.01206%

Exhibit K – BitEarn Programme

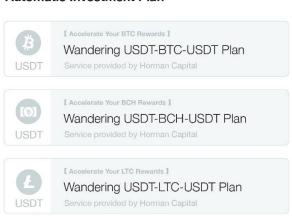






Exhibit L – Automatic Investment Plans

Automatic Investment Plan



Premium Investment Plan



7. HyperDAO MF (Microfinance) System

Committed to building a financially inclusive system, HyperDAO sees the importance in helping the less fortunate improve their lives. Many impoverished people living in developing countries do not have access to banking services or are turned away from the banks due to limited financial resources²⁸. They are also often at the mercy of syndicates who take advantage of their circumstances by offering them employment with inequitable terms and conditions. Many of them become trapped in jobs that are underpaid and have harsh working conditions. HyperDAO aims to help these people become more financially literate and provide basic banking services that can help them improve their lives.

7.1 Financial education and basic banking services

To many in the developed world, 100 dollars could mean an expensive dinner with their family, but in developing countries, the same 100 dollars can be used to start a business and generate income for the impoverished. HyperDAO understands that many of the impoverished have limited resources and have little to no assets to collaterise for loans. Similar to microfinance banks, HyperDAO will work with local partners to help the impoverished tokenise their financial assets and allow them to create a basic savings or deposit account. Instead of collaterising assets, HyperDAO requires the person or group to repay regularly. They will be required to set aside a part of their income in our savings account every month to reduce the likelihood of default. Local partners will help collect a percentage of their income to be deposited with us and HyperDAO can help them generate passive income through the operation of our platform. In practicality, it makes more sense to pool borrowers together to create a small engaged community that use the pooled funds to engage in joint

business activities. Also, by pooling borrowers together, pressure can be put on individuals to repay consistently since default on the loan by an individual directly affects the entire group.

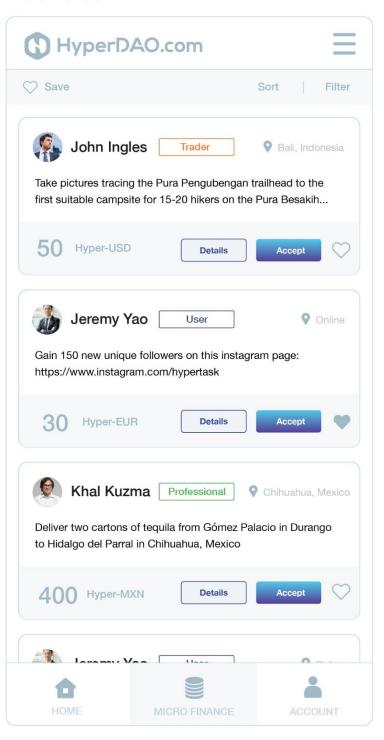
7.2 Credit scoring through completion of tasks

Ultimately, the goal of these microfinance initiatives is to alleviate poverty and improve the lives of the less fortunate. HyperDAO aims to do this by utilizing the MF system which enables users to complete tasks created by other users in exchange for tokens. HyperDAO is currently building a phone application which will gradually integrate the various systems of HyperDAO into an app format. Within the HyperDAO application, there will be a MF segment where people can create and accept tasks. Users who wish to have a task completed can post their task on the MF platform; creators can set the location in which this task is located or if it can be completed online. Other users will then receive a notification indicating that a task is available to be completed in their vicinity. Users who have completed the tasks can upload photographic evidence of the completion onto the app to be verified. As the token reward is locked up using a smart contract, HyperDAO prevents task creators who attempt to avoid paying after the said tasks are completed. As a safety net for tasks creators, if the completion of certain tasks is considered unsatisfactory or appear doctored, tasks creators can flag for an independent review to decide if payment is required. Users will receive a rating for every task they complete; this rating will form the basis of their credit score. In time, through the receiving satisfactory ratings from tasks creators, HyperDAO gradually helps these users build a reliable credit score. A good credit score will enable users to take on loans of varying amounts, with better credit scores allowing for larger loans. At the same time, HyperDAO can also help by working with local banks or

financial service providers to keep track of users' credit score and help them secure loans with these institutions.

Exhibit M – Microfinance segment of HyperDAO App

Microfinance



7.3 Investment and Employment opportunities

The HyperDAO platform will also allow users to post employment opportunities. The HyperDAO microfinance team will ensure that the terms of these employment contracts are ethical and serve as an intermediary between the employer and employee. The employment contracts are recorded on the blockchain to be immutable.

Developing countries present many profitable investment opportunities; seeing that this could be an opportunity for the impoverished to alleviate poverty, the HyperDAO platform allows users to create business proposals to be posted on the platform for investors to partake in. HyperDAO will again serve as an intermediary that ensures that the business proposals are ethical and that the terms and conditions of the investments are equitable to the users offer in the investments.

8. HyperDAO EC (E-Citizenship) System

HyperDAO will establish a blockchain-based electronic citizenship information system that helps collect, safekeep and ensure privacy of its citizens' data. HyperDAO believes that the 'smart city' of the future will realise the intelligent interconnection of all things, and the establishment of an electronic citizenship information system based on blockchain technology will help all users enjoy the convenience and peace of mind brought by technology.

Conclusion

HyperDAO will provide a multitude of users with different backgrounds, goals, needs and abilities with effective and robust decentralised financial solutions. This will be achieved with the creation of different subsystems within the platform. HyperDAO will issue a stablecoin system, which, in contrast to current stablecoins, offers users flexibility in terms of collateralisation. The platform will also facilitate crowdfunding, with a focus on compliance and security, however, various improvements will be made, as suggested by our community. With the addition of blockchain technology, HyperDAO will create specialised investment products with instant transaction data, smart contracts, and asset tokenisation. HyperDAO envisions a platform where users can put their knowledge to the test, participating in forecasting for a variety of topics, such as future prices of cryptocurrencies, with varying parameters and degrees of precision needed. HyperDAO will also work with a dedicated exchange to provide liquidity and enable the trading between Hyper-Fiat pairs. The platform will develop a peer-to-peer loan system, allowing lenders to generate passive income, or borrowers to loan crypto-assets to meet their needs. HyperDAO also offers tailored custodian services as an alternative to those of banks. With financial inclusivity as the focus, HyperDAO wishes to give those who are in financially restrictive situations the opportunity to receive basic financial services in an equitable and beneficial environment. Finally, HyperDAO will establish an electronic e-citizenship system that helps collect, safekeep and ensure privacy of its citizens' data.

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