Cheddur 2.0

Yelp, for the cryptocurrency ecosystem.

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Abstract

Cheddur 2.0 is a Yelp-like social network for all things crypto that aligns the interests of cryptocurrency beginners, cryptocurrency experts, and crypto companies (coins, tokens, and ÐApps). This is done by introducing a new utility token, CHDR (Ʉ), which utilizes industry-leading "Proof of Brain" properties to accurately and transparently reward individuals who make subjective contributions to the Cheddur community. Users earn Ʉ tokens for creating and curating high-quality content on the platform, and crypto companies spend Ʉ tokens on the platform to grow their communities of users and investors. Cheddur 2.0 will be the first platform to apply this technology to reviews, and in doing so, aims to bring safety, order, and accountability to the cryptocurrency ecosystem.

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Introduction

Blockchain technology is currently modeling the same exponential growth and network effects that the Internet did in the 1990s. The number of cryptocurrency companies (coins, tokens, and ÐApps) that were launched between 2014-17 tracks closely to the number of websites that were launched on the Internet between 1991-95. The number of funded Initial Coin Offerings (ICOs) between 2014-17 also tracks closely to the number of Internet companies that received venture capital funding between 1991-95. And most importantly, the number of people who downloaded a wallet and bought their first cryptocurrency between 2014-17 also tracks closely to the number of people who bought a modem and connected to the Internet for the first time between 1991-95[1].

Crypto Market Size

Blockchain—one of the industry's leading wallet providers—has over 27M users as of August 2018[2]. Coinbase, another industry giant, currently has over 20M users[3]. And Binance, one of the industry's leading exchanges, has acquired over 9M users within its first year of operation[4]. Estimating that there are ~30M unique cryptocurrency users worldwide (as of August 2018), we are currently in the year 1996 when compared to the Internet.

The Internet surpassed 1 billion users just 9 years later (December, 2005), and based on growth comparisons above, it is fair to estimate that ~**1 billion people will enter the cryptocurrency market by the year 2027**[5].

Venture Capital Funding

In 2017, $900M USD of venture capital funding was injected into blockchain and cryptocurrency startups globally. According to current growth trends, venture capital funding in crypto startups is expected to exceed $3.2B USD in 2018 (~3.5x)[6].

Number of Tokens

As of August 2018, the Ethereum platform alone is host to over 110,000 tokens according to data provided by Etherscan. Using Etherscan's data as a baseline, our forecasts predict that there will

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[1] Medium, Chris McCann, "12 Graphs That Show Just How Early The Cryptocurrency Market Is," May 2018. https://medium.com/@mccannatron/12-graphs-that-show-just-how-early-the-cryptocurrency-market-is-653a4b8b2720

[2] Blockchain Wallet Users. https://www.blockchain.com/charts/my-wallet-n-users?timespan=all

[3] About Coinbase. https://www.coinbase.com/about?locale=en-US

[4] CCN, Josiah Wilmoth, "Binance Has Quadrupled Its User Base Since January, Will Launch EUR Pairs," June 2018. https://www.ccn.com/binance-has-quadrupled-its-user-base-since-january-will-launch-eur-pairs/

[5] World Stats, "Internet Growth Statistics." https://www.internetworldstats.com/emarketing.htm

[6] TechCrunch, Jason Rowley, "With at least $1.3 billion invested globally in 2018, VC funding for blockchain blows past 2017 totals," May 2018. https://techcrunch.com/2018/05/20/with-at-least-1-3-billion-invested-globally-in-2018-vc-funding-for-blockchain-blows-past-2017-totals/

be over 1M cryptocurrencies by the end of 2020, and ~5% of them will be marketed by their issuer as an investment opportunity.
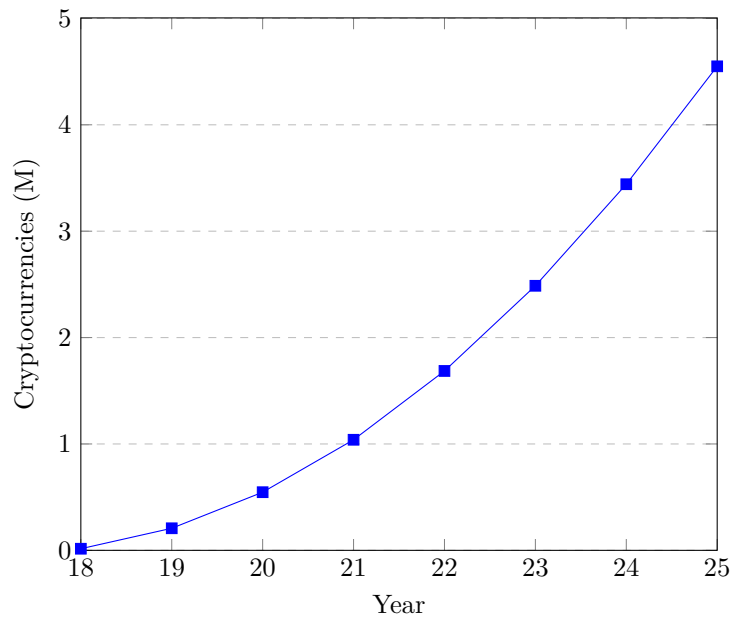
Figure 1: Total Number of Cryptocurrencies over Time

Digital Advertising

Digital advertising by cryptocurrency companies is expected to exceed $10B annually within the next 5 years.

Many of the tech giants like Facebook, Google, and Twitter are restricting the ability for cryptocurrency companies to advertise[7], which is leading them to seek out other platforms.

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7   Blockonomi, Carlos Terenzi, "Tech Giants Ban Cryptocurrency Advertising – What Does it Mean?," April 2018. https://blockonomi.com/cryptocurrency-advertising-ban/

Figure 2: Annual Digital Ads Spending by Crypto Companies

Barriers to Entry

In 2018, however, the barrier to entry into the cryptocurrency market is still very high.

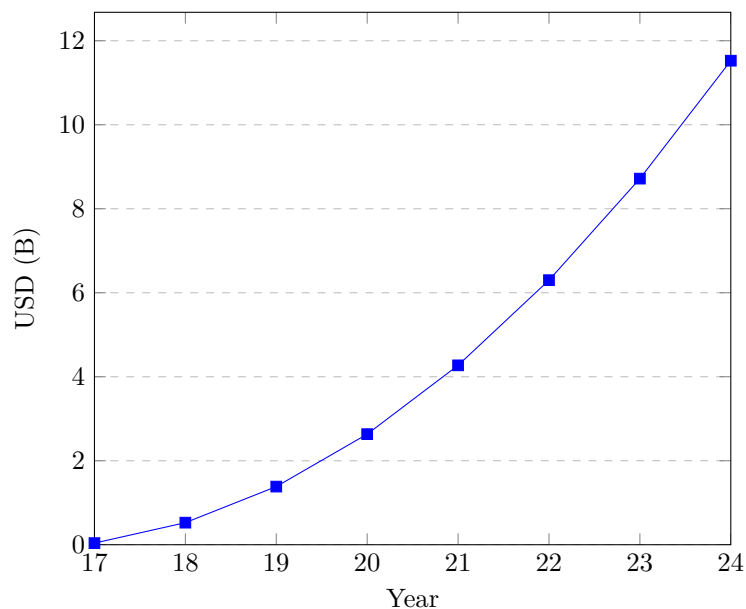- Most consumers are unfamiliar with cryptocurrency as an asset class. As a result, they have many questions, doubts, and uncertainties about cryptocurrency, and it currently takes too much time, energy, and experience to get answers.

- Most cryptocurrency tools, wallets, and applications are still extremely technical. To beginners, it can feel as though you need a Ph.D. in computer science just to get started.

- The fiat-to-crypto "on-ramps"—platforms like Coinbase, Gemini, and Bittrex—greatly simplify the purchasing process. However, these platforms have neglected the educational components that are needed to help their users understand *what* it is that they are buying. Without these educational components, users are less likely to make informed investment decisions.

- According to CoinSchedule, ~25 new ICOs have launched per week between January and August of 2018[8]. This is up over 500% from the number of ICOs that were launched per week in 2017[9]. Even though the floodgates are just starting to open, keeping up is already a full-time job.

- There's very little (helpful) regulation in the space and, as a result, scammers are running rampant. A recent study from the Satis Group (an ICO advisory firm) suggests that **more than 80% of ICOs that were conducted in 2017 were scams**[10].

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[8]   CoinSchedule, "Cryptocurrency ICO Stats 2018."
     https://www.coinschedule.com/stats.html?year=2018

[9]   CoinSchedule, "Cryptocurrency ICO Stats 2017."
     https://www.coinschedule.com/stats.html?year=2017

[10]   Satis Group, "Cryptoasset Market Coverage Initiation: Network Creation," July 2018.
     https://research.bloomberg.com/pub/res/d28giW28tf6G7T_Wr77aU0gDgFQ

Parallels to the Internet

The cryptocurrency industry in 2018 is still the Wild West and, similar to the comparisons made above, this too is much like the early days of the Internet. In 1996, cybercriminals—skilled, organized, and motivated by financial gain—sent spam email, orchestrated phishing attacks, defaced websites, and stole private information[11]. New dot-com companies launched every day, but with their resources focused on "fast-tracking to IPO, without adequate emphasis on a viable business plan, solid mission, and inspiring vision"[12]. Furthermore, few investors truly understood the technology, nor the companies they were investing in.

This was the recipe for the dot-com collapse of 2000, of which only 48% of Internet companies survived and many investors lost their life savings[13]. Today, we're seeing the same ingredients coalesce in the cryptocurrency market as less educated investors enter the market, scammers prey on newcomers through fake Twitter accounts and cryptocurrency "giveaways", hackers are stealing from exchanges and smart contracts, and "ICO fever" continues to grow.

Problems

To get involved in the cryptocurrency market, most beginners need the help of a "trusted expert"—someone who can guide them to safely enter the market and navigate the ecosystem. However, most consumers do not have a trusted expert in their life, which puts cryptocurrency out of reach for the mainstream.

Furthermore, cryptocurrency companies need to grow their communities of users and investors in order to survive, but this is becoming increasingly difficult (and expensive) as competition floods the market and existing social media channels continue to clamp down on cryptocurrency advertising.

Cheddur 1.0

On October 30, 2017, the first version of Cheddur was launched on the App Store and on Google Play to address these problems. Since then, Cheddur has served as the trusted expert for over 50,000 users (as of August 2018) aiming to:

- Learn the basics of cryptocurrency.
- Find the best coins and ICOs to invest in.
- Find the best wallets, exchanges, and other crypto applications to safely store, secure, and trade those coins.
- Read and write cryptocurrency reviews.
- Send and receive tips, payments, and donations in any cryptocurrency to other users.
- Connect with friends, crypto companies, and other cryptocurrency users.

In parallel, Cheddur has also served as an invaluable tool for over 2,000 cryptocurrency companies (as of August 2018) seeking to:

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[11]   Diesel Cafe, Kelly White, "Cybercrime in the 1990s," January 2014.
http://www.dieselcafe.com/2014/01/cybercrime-in-1990s.html

[12]   Inc., Jamie Walters, "Why Dot-Coms Failed (And What You Can Learn from Them)," September 2001.
https://www.inc.com/articles/2001/09/23447.html

[13]   Wikipedia, "Dot-com bubble."
https://en.wikipedia.org/wiki/Dot-com_bubble

- Share their mission and vision with the cryptocurrency community.
- Get discovered by—and connect with—new users and investors.
- Solicit (and respond to) user feedback in the form of ratings and reviews.
- Advertise their companies on the platform to increase their exposure.
- Grow their individual communities.

Traction

Despite the bear market of 2018, our community of users and companies has grown steadily. As of August 2018, Cheddur has:

- Guided 50,000+ beginners.
- Registered 10,000+ accounts.
- Amassed 2,500+ cryptocurrency reviews.
- Amassed 2,000+ coin addresses.
- Listed 2,000+ coins and crypto apps.
- Established 200+ partnerships with cryptocurrency companies across the globe.

We've also received an overwhelming amount of positive feedback over the past few months, as evidenced by our 4.9/5 rating on the App Store, our 4.6/5 rating on Google Play, and our 4.5/5 rating on Cheddur.

Cryptocurrency Reviews

We recognize that in 2018, a significant portion of the cryptocurrencies on the market may be low quality, or even outright scams. While it is important to identify these currencies as such, deciding *which* of these are scams is often a highly subjective process—at least before the issuer has publicly committed fraud.

Using the Wisdom of the Crowd

As a company, we believe that it is best to be neither the judge nor jury over these subjective decisions. When it comes to listing new coins and crypto apps on Cheddur, our goal is to instead be *factually complete* and to list new and interesting projects based on user demand and the facts that are available on the Internet.

We believe that it is the responsibility of the cryptocurrency community as a whole—rather than a central authority—to collectively determine the quality of each crypto company. This is commonly referred to as the "wisdom of the crowd" principle[14], and is currently being accomplished on Cheddur in the form of user-generated cryptocurrency reviews.

Challenges

In studying over 2,500 cryptocurrency reviews on the Cheddur platform and speaking with dozens of community members one-on-one, our team has been able to identify several important challenges

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[14]   Wikipedia, "Wisdom of the crowd."
       https://en.wikipedia.org/wiki/Wisdom_of_the_crowd

with user-generated reviews:

1. Tribalism is prevalent among cryptocurrency communities, and can cause users to be overly positive in their reviews of coins that they hold (5 stars), or overly negative in their reviews of "rival" projects (1 star)[15].
2. Companies are not permitted to remove user reviews of their coin or crypto app, so long as those reviews abide by the Cheddur Content Guidelines. As a result, companies may resort to astroturfing[16] or vote brigading[17] in order to drown out critical reviews and/or fake their popularity on the platform.
3. The less familiar a user is with cryptocurrency, the exponentially more reliant they tend to be on the opinions of others.
4. Generally speaking, the experts and innovators in the cryptocurrency space—those with the wisdom and experience to produce the highest-quality reviews—have not been properly incentivized to do so.

Conclusions

Maintaining the integrity of the Cheddur review system is critical towards holding cryptocurrency companies accountable for their actions and enabling beginners to easily distinguish between high-quality and low-quality companies.

Based on the findings from the Cheddur user study above, we have been able to draw the following conclusions:

1. High-quality reviews ought to carry more weight towards determining a cryptocurrency company's overall star rating then should spammy, low-quality reviews.
2. If the quality of a review can be determined through the up-votes (or lack thereof) that it receives, the *quality* of the users who casted the up-votes is arguably more important than the *quantity* of users who casted votes.
3. In order to properly calculate the quality of each user, a reputation system is needed. A user's reputation should dictate the amount of influence that user has within the network.
4. Reputation cannot be an abundant resource that is freely available within the network. Increasing a user's reputation must come at a cost to that user—either financial, or in the form of sweat equity[18].
5. To prevent timing attacks[19], reputation within the network should not be easily transferred or sold.
6. Rewards are needed to encourage users to acquire (and compete for) reputation and influence in the network via the creation and curation of high-quality content. At the same time, penalties are needed to discourage users of influence from abusing it.

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[15]   Medium, Anthony Sassano, "Tribalism in Cryptocurrency," September 2017.
https://medium.com/@AnthonySassano/tribalism-in-cryptocurrency-2e39dd6bb0b5
[16]   Wikipedia, "Astroturfing."
https://en.wikipedia.org/wiki/Astroturfing
[17]   Wikipedia, "Vote brigading."
https://en.wikipedia.org/wiki/Vote_brigading
[18]   Investopedia, "Sweat Equity."
https://www.investopedia.com/terms/s/sweatequity.asp
[19]   Wikipedia, "Timing attack."
https://en.wikipedia.org/wiki/Timing_attack

The High Quality Review

In a recent study conducted by Bizrate Insights, 66% of US internet users reference online reviews before making a purchase, even if they are not purchasing that item online[20]. With 1 billion consumers slated to enter the cryptocurrency market over the next 9 years, the high-quality cryptocurrency review will be the backbone of mainstream consumer decision-making around cryptocurrencies.

Cheddur 2.0

To align the interests of cryptocurrency beginners, experts, crypto companies, and the Cheddur team, Cheddur tokens (CHDR) will be introduced in version 2.0 of the platform. The purpose of this token system is to:

- Establish a reputation system to designate user influence in the network.
- Determine the subjective quality of each user-generated review using the wisdom of the crowd.
- Incentivize users to create and curate the highest-quality cryptocurrency reviews via rewards and network influence.
- More accurately calculate the overall star rating and popularity of each cryptocurrency company by favoring reviews that are deemed to be high quality.
- Minimize the effects of tribalism, astroturfing, review brigading, and other forms of malicious activity.
- Empower the Cheddur community to be self-policing and self-sustaining.
- Enable beginners to *earn* their way into the market with little or no downside risk.

CHDR Tokens (Ʉ)

In order to achieve this, the CHDR currency will utilize the industry-leading Proof of Brain[21] properties that were pioneered by the Steem blockchain and made available through the Smart Media Token (SMT) protocol. Each piece of user-generated content will be stored on the Steem blockchain and voted on by the Cheddur community in order to determine its social value, and therefore its payout in Ʉ.

Parameter	Value
Asset Name	Cheddur
Ticker	CHDR
Symbol	Ʉ
Blockchain	Steem
Protocol	SMT
Decimal Places	6

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[20]   eMarketer Retail, Rimma Kats, "Surprise! Most Consumers Look at Reviews Before a Purchase," February 2018.
https://retail.emarketer.com/article/surprise-most-consumers-look-reviews-before-purchase/5a94768debd4000744ae413e
[21]   Steemit, Inc., "Steem Bluepaper," 2017.
https://steem.io/steem-bluepaper.pdf

Why Steem?

By using the Steem blockchain, Cheddur users will be able to enjoy the benefits of the blockchain without having to realize they are using one, thanks to Steem's:

- Delegated Proof of Stake (DPoS) consensus mechanism[22].
- Zero transaction fees.
- Low latency provided by 3-second block times.
- High transactional throughput.
- Stolen account recovery system.

These features are paramount in order to serve the crypto novice customer segment, and have made platforms like Ethereum a non-starter for our use case.

Rewards

Ц tokens will be awarded via the programmatic inflation of the CHDR supply. Inflation aligns the interests of each stakeholder as the *Cheddur community as a whole*—beginners, experts, companies, and the Cheddur team—collectively pay for the creation and curation of high-quality content.

Users are able to post cryptocurrency reviews on the platform as frequently as they'd like and at *zero cost*—much like the mainstream social networks of today. This fosters the production of fresh cryptocurrency reviews, which is healthy for the growth of the platform.

Users are able to cast votes on these reviews—also at no cost—which encourages the curation of content. Reviews that are deemed by the community to be of the highest quality (via up-votes) are rewarded in newly minted Ц tokens. In addition to the review author receiving a reward for their work, the curators who did the work of discovering and up-voting the author's review are also rewarded for their efforts.

This creates a positive feedback loop between review writers (experts) and review readers (beginners) as they are financially incentivized to *work together* to deliver the highest-quality content to the platform. (Refer to the FAQ section for more information on preventing coordinated attacks.) Furthermore, each stakeholder in the system is incentivized to maximize the growth of the network in order to offset the downward effects of inflation on the price of their own Ц. So long as the rate of growth of the platform (e.g. high-quality reviews, company profiles, and users) exceeds the rate of inflation, each stakeholder will benefit in the long run.

Monetary Policy

The CHDR currency will start with an initial supply of 100M Ц. To bootstrap early growth and participation in the Cheddur network, the CHDR supply will inflate at an initial rate of 4% annually. Every year, the annual inflation rate will decrease by 0.5% until an annual inflation rate of 1% is reached. This will occur in the year 2025 and from then on, a 1% annual inflation rate will be used in perpetuity.

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[22] Bitshares, "Delegated Proof of Stake."
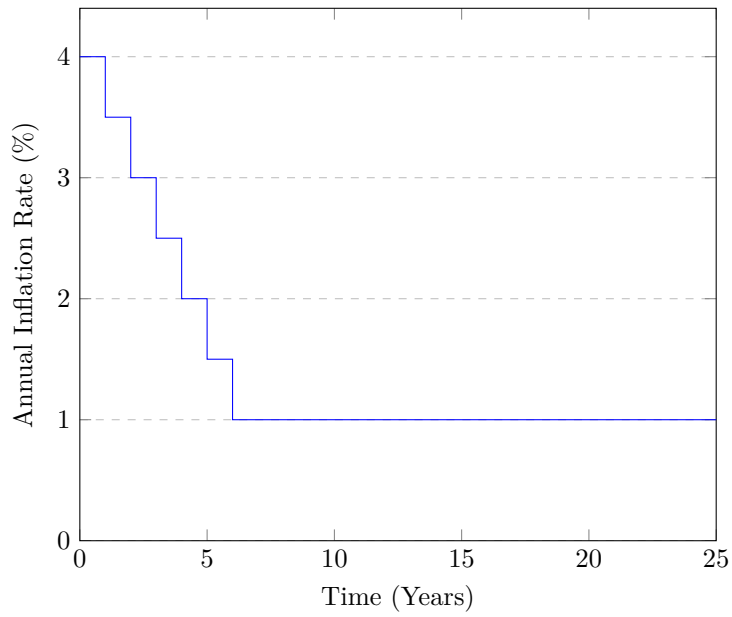http://docs.bitshares.org/bitshares/dpos.html

Figure 3: CHDR Annual Inflation Rate over Time

Based on this starting supply and inflation curve, the overall supply of the CHDR currency will grow predictably over time as follows:
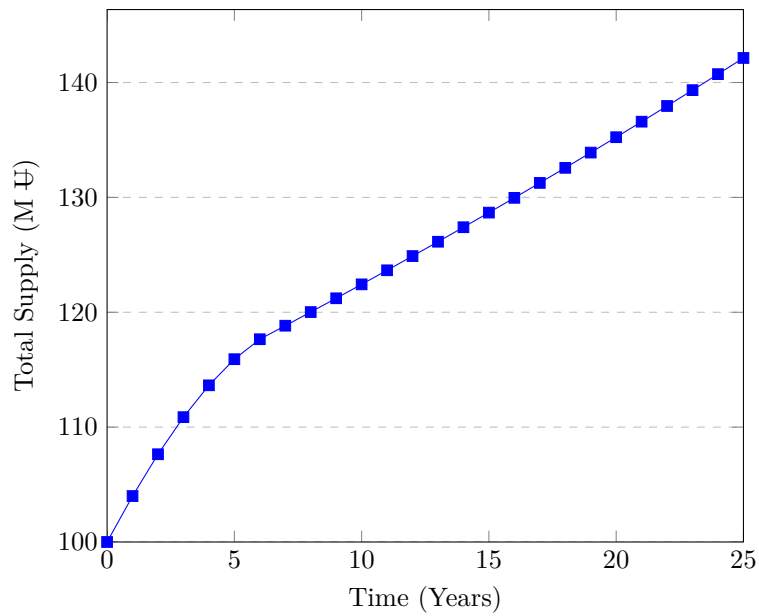

Figure 4: CHDR Supply over Time

Token Inflation Events

Every 3 seconds, a token inflation event will occur on the Steem blockchain that will introduce new Ⓤ tokens into circulation. The proceeds from each token inflation event will be distributed as follows:
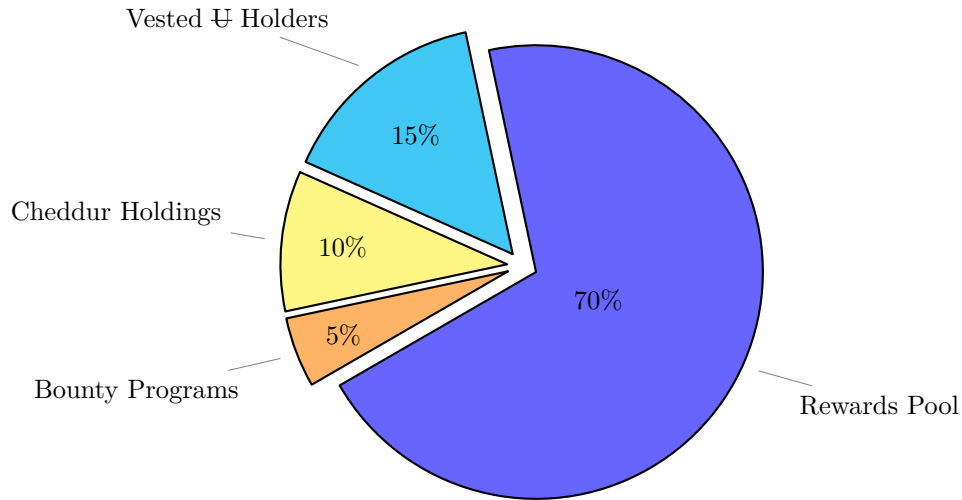

Figure 5: Distribution of CHDR Inflation

Rewards Pool

User-generated content that is posted on the Cheddur platform will be eligible to earn Ⓤ tokens based upon the up-votes it receives from the community. Payouts will be funded from the rewards pool and will occur exactly 7 days after each piece of content is posted. This one-week timeframe will incentivize authors to promote their Cheddur content in a timely fashion across other social networks. This distributed effort will bring traffic into the Cheddur platform and help bootstrap the growth of the network.

Posting content on the Cheddur platform does not guarantee a payout in Ⓤ. Reviews that receive zero up-votes will not be deemed to have social value by the Steem blockchain and therefore will not receive a reward. Furthermore, each review must compete for rewards against the other reviews that are posted within a similar timeframe. Thus, it is possible that a review which only receives a small number of up-votes—especially from users of weak reputation—may not prove to have enough social value to earn a reward in comparison to other content.

Payouts that are awarded to content of high social value will be divided between the author and the curators as follows:
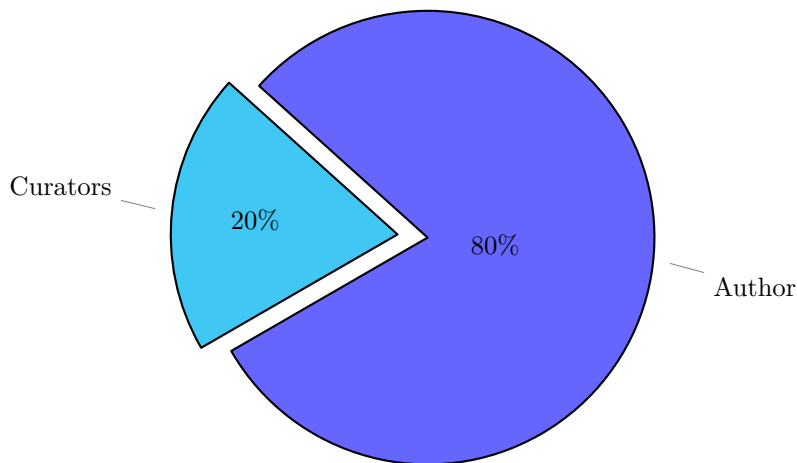
Figure 6: Distribution of Ꙅ Rewards

Rewards Curves

As defined within the SMT protocol, the CHDR currency will use a *rc_linear* rewards curve to distribute Ꙅ rewards among each piece of content, and a *cc_sqrt* curation curve to divide Ꙅ rewards among the curators of an individual piece of content.

"Powering Up"

To encourage users to invest in the long-term success of the Cheddur platform (rather than panic selling 100% of their Ꙅ rewards), Ꙅ tokens can be vested (or "staked") in a user's account in order to increase their reputation in the network and to earn interest. This process is referred to as "powering up" your Ꙅ tokens because it increases your overall influence within the network.

15% of all Ꙅ tokens generated through inflation are earmarked for vested token holders. The amount of Ꙅ tokens that each vested token holder will receive is proportional to the amount of Ꙅ tokens that are staked in their account.

Influence

"One account, one vote" reputation systems can easily be undermined through Sybil attacks, astroturfing, and vote brigading. Therefore, influence within the Cheddur network will instead be determined under a *"one token, one vote"* policy based on the amount of vested Ꙅ tokens each user has in their account.

This will favorably skew influence over the network towards users who have skin in the game—by earning in or buying in—and are vested in the long-term success of the platform.

"Powering Down"

While the process of powering up one's Ꙅ tokens happens instantaneously, the inverse—or "powering down" one's Ꙅ tokens—will occur over a 13-week period. This is a safeguard to prevent a malicious

user from powering up their tokens, using their increased influence to adversely affect the system, and then immediately selling their Ҵ tokens on the open market before the price of CHDR has a chance to reflect any potential damage.

Over the course of this 13-week period, vested Ҵ tokens will be converted back into normal Ҵ tokens in weekly amounts of 1/13. The process of powering down Ҵ tokens can be canceled at any time.

Voting Power

To prevent users from spamming the network with up-votes, each user will be able to cast a maximum of 50 up-votes per every 5 days, or ~10 up-votes per day.

You can think of a user's "voting power" as a mana bar that fills from 0% to 100%. Each up-vote that a user casts will expend 2% of his or her voting power. This means that if a user starts at 100% voting power, they can cast, at a maximum, 50 up-votes in a single day. Voting power will recharge at a rate of 20% per day, so a user who has 0% voting power today will be able to cast, at a maximum, 10 votes tomorrow.

Seth Tomlinson concisely explains the mechanics of Steem's voting power here.

Rating & Review Algorithms

By using the Steem blockchain to calculate the social value of each cryptocurrency review, we can be more intelligent about how the overall star rating of each cryptocurrency company is calculated. Rather than every review carrying an equal weight towards the overall star rating of a company (as exists today in Cheddur 1.0), we will implement new algorithms to skew the overall rating towards reviews that are deemed by the community to be of high quality.

Review Score

First, we will calculate a *ReviewScore* for every review in order to determine how much weight each should have on the company's overall rating. For a review of v number of up-votes and u number of Ҵ rewards, the review score will be calculated as follows:

$$VotePoints = v * 2 \tag{1}$$

$$RewardPoints = u * 10 \tag{2}$$

$$ReviewScore = VotePoints + RewardPoints \tag{3}$$

Note: Reviews that accrue 0 votes ($v = 0$ and $u = 0$) will result in $ReviewScore = 0$ and will not factor into the overall rating. Review scores will be rounded to the nearest integer.

Overall Rating

The review score for each cryptocurrency review will be used to determine how much weight each individual rating should have on the company's $OverallRating$. The higher a review's score, the more impact its rating will have on the overall—and vice versa. For n number of reviews, the overall rating will be calculated as follows:

$$TotalReviewScore = \sum_{k}^{n}(ReviewScore_k) \qquad (4)$$

$$OverallRating = \frac{\sum_{k}^{n}(ReviewScore_k * ReviewRating_k)}{TotalReviewScore} \qquad (5)$$

Popularity

When a user is browsing through coins and crypto apps on the Cheddur platform, the results will be sorted based on *Popularity* (highest to lowest) as the default.

For w number of "watchers" who have added Coin C to their Cheddur Watchlist and u number of users who have posted their public Coin C addresses on Cheddur, the popularity of Coin C will be calculated as follows:

$$UserScore_c = u * 3 \qquad (6)$$

$$Popularity_c = TotalReviewScore_c + UserScore_c + w \qquad (7)$$

Since users cannot add crypto apps to their Cheddur Watchlist or post coin addresses to crypto app pages, the popularity of crypto App A will simply be calculated as:

$$Popularity_a = TotalReviewScore_a \qquad (8)$$

Coin Example

Coin C				
Reviewer	**Rating**	**Up-Votes**	**Ʉ Payout**	**Review Score**
Alice	5	2	1.45	19
Bob	1	1	0.5	7

Given that Coin C has 10 watchers and 4 users who have posted their public Coin C addresses, $TotalReviewScore_c = 26$, $OverallRating_c = 3.92$, and $Popularity_c = 48$.

App Example

App A				
Reviewer	**Rating**	**Up-Votes**	**Ʉ Payout**	**Review Score**
Alice	1	2	1.45	19
Bob	5	1	0.5	7

$TotalReviewScore_a = 26$, $OverallRating_a = 2.08$, and $Popularity_a = 26$.

Algorithm Upgrades

Results from *ReviewScore*, *OverallRating*, and *Popularity* computations will be stored outside of the consensus of the Steem blockchain on Cheddur's own servers. This will allow the Cheddur team to upgrade these algorithms over time to better reflect the wisdom of the crowd.

CHDR Dimensions of Value

Once the Cheddur 2.0 platform goes live, users will only be able to acquire Ʉ tokens by:

(A) Earning them through the production of high-quality reviews.

(B) Earning them by completing valuable bounties.

(C) Buying them on the open market.

(D) Powering them up within their user accounts in order to earn interest.

In scenario (A), more high-quality reviews will be added to the Cheddur platform which is likely to attract more users and growth. In scenario (B), more users and engagement will be brought to the Cheddur platform which will also spur growth. In scenarios (C) and (D), Ʉ tokens will be purchased on the open market and/or locked away, thereby reducing the circulating supply of the CHDR currency. Each of these outcomes are favorable for the Cheddur platform and will increase the value that gets accrued to the token.

Page Upgrades & Advertising

As competition over the rewards pool grows, user traffic will grow with it. Upon claiming their free Cheddur profiles, crypto companies will be able to pay for page upgrades and targeted advertising on the platform (using a CPM and CPA model). All page upgrades and advertisements will be funded using US dollars or Ʉ tokens. Each quarter, a (currently undecided) percentage of platform profits may be used to "burn" (forcibly remove from circulation) CHDR tokens to help offset the inflation.

Page upgrades will include the ability for crypto companies to remove competitor ads from their page and to add a custom Call to Action button on web and mobile. Targeted advertisements will take the form of:

(A) Sponsored listings in relevant search results.

(B) Being recommended as an alternative on competitor pages.

(C) Appearing at the top of other searchable lists, such as an exchange's supported coins list.

Bounty Program

Users will be able to earn additional Ⴎ tokens by completing valuable "bounties" (activities) on the platform. 5% of all Ⴎ tokens generated through inflation are earmarked for bounties in order to accelerate the adoption of Cheddur.

Bounties will be run outside of the consensus of the Steem blockchain, which will allow new bounties to be tested and existing bounties to be tweaked over time. The amount of Ⴎ tokens awarded for the completion of each bounty will be subject to change based on the reserves available in the bounty program.

First to Review Bounty

To encourage users to try out and review new (or lesser-known) coins and crypto apps, the first user to review each company will receive 2x the normal payout of Ⴎ tokens. If such a review is deemed by the Steem blockchain to have low social value and does not earn a payout, this bounty will have no effect, as:

$$0Ⴎ(Reward) * 2(BountyMultiplier) = 0Ⴎ \tag{9}$$

Profile Listing Bounty

To encourage cryptocurrency companies to list themselves on the Cheddur platform, Ⴎ10 will be awarded to the submitter of a new coin or a new app that is listed on Cheddur. This Ⴎ25 reward can be applied by crypto companies towards their first in-app advertisement.

All submissions will be reviewed by Cheddur moderators for quality purposes, as we reserve the right to deny low-quality submissions and/or duplicates.

Profile Claiming Bounty

To encourage cryptocurrency companies to claim their free Cheddur profiles, Ⴎ5 will be awarded to the team member who successfully claims a profile using our automated verification system or manual verification. This Ⴎ5 reward can also be applied towards in-app advertising.

Referral Program

If a new user signs up for Cheddur using an existing user's referral link and writes a review within 180 days of opening their account, both the new user and the referrer will earn Ⴎ5. This will encourage existing users to bring their friends and followers to Cheddur and for new users to contribute content.

Initial Coin Offering

Cheddur, Inc. is currently raising capital from private investors to fund the development of Cheddur 2.0. In order to distribute CHDR tokens to STEEM holders and to raise capital for the ongoing

development of the platform, we will be conducting an ICO using the built-in capabilities of the SMT protocol.

Parameter	Value
Start Date	April 01, 2019
End Date	April 30, 2019
Currencies Accepted	STEEM
Minimum Contribution	1 STEEM
Hard Cap	20M USD

The targeted launch date for the Cheddur 2.0 platform is May 01, 2019—the day after the ICO concludes.
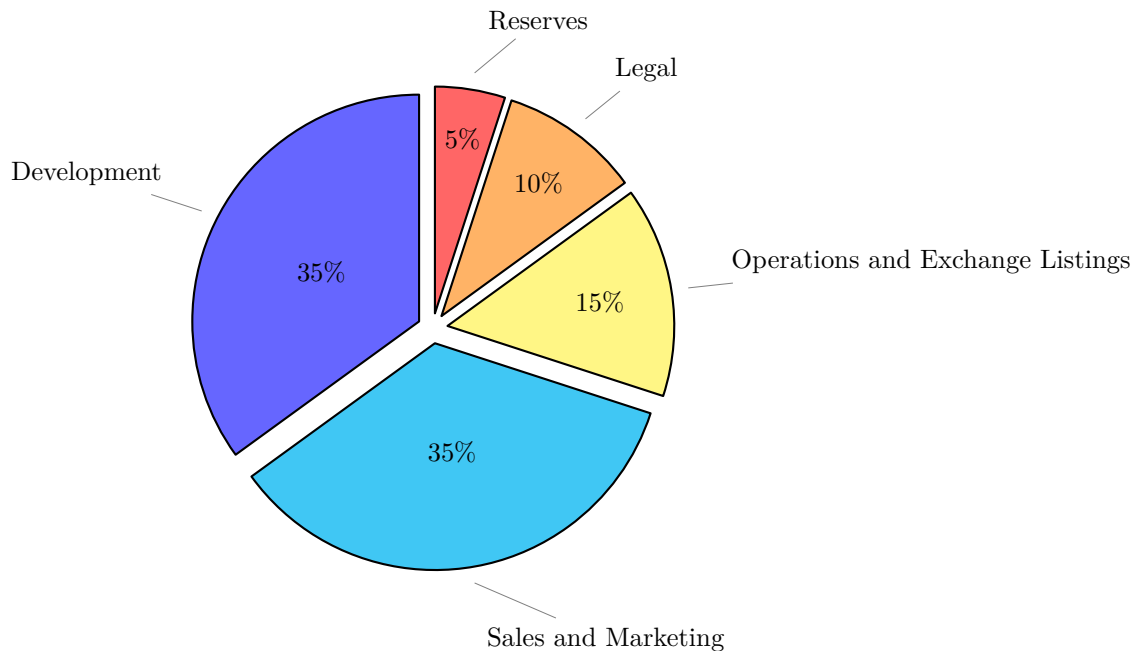
Token Distribution

The initial supply of 100M Ꮙ tokens will be distributed as follows:
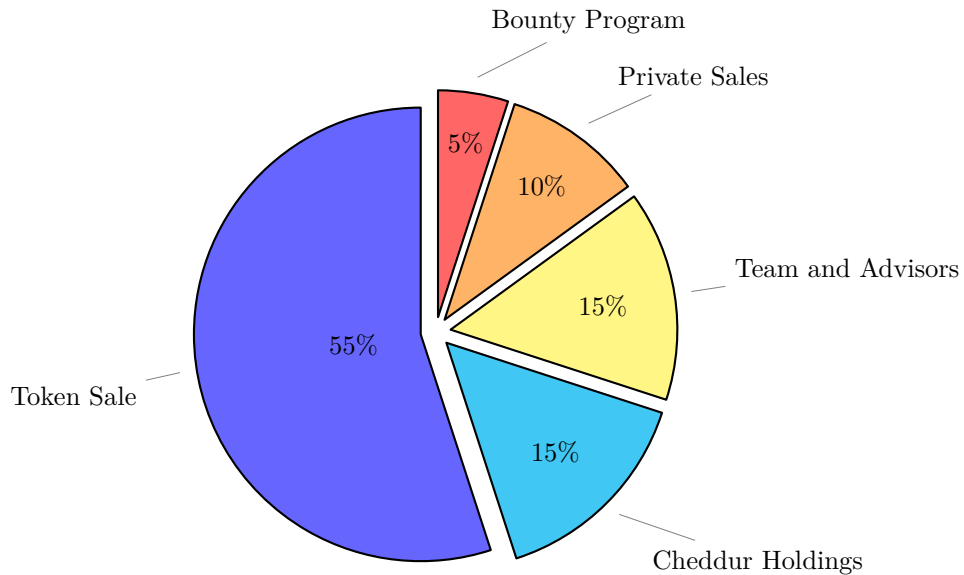
Use of Funds

The 15M Ꮙ tokens that will be in the Cheddur team's possession will be utilized as follows:

Competition

For any rewards-based ÐApp, the most critical question to answer is: "Who pays the bill?" In the case of Cheddur, the question is more specifically: *"Who pays reviewers to produce high-quality reviews?"*

Our competitors have gotten this wrong.

Misaligned Incentives

In most ÐApps today (i.e. applications that are built on top of Ethereum), the person who initiates the transaction generally has to foot the bill. If these mechanics were to be used on Cheddur, then a review writer would need to pay a platform fee in order to post their cryptocurrency review and a review reader would need to pay the writer their reward (directly) when they up-vote.

In this scenario, interests are misaligned between the parties. In order to boostrap the growth of the network, the Cheddur platform will need cryptocurrency reviews more than experts will need to write them. If a transaction fee (or pay wall) is introduced in order for content to be posted on the network, little or no content will be posted on the network at all. Furthermore, if the review readers (beginners) are responsible for rewarding the review writers (experts) directly from their own wallets (another pay wall), then:

(A) Every user will need to maintain a minimum balance on their account in order to interact with the platform.

(B) The incentive to curate content will be greatly diminished because doing so comes at a cost to the user, rather than a benefit. In the absence of curation, writers will not be appropriately

rewarded and high-quality content will become harder to find on the platform (and eventually cease to exist).

Cheddur's Approach

For these reasons, we've taken a different approach to rewarding users within the Cheddur ecosystem. Rather than individual users having to pay rewards and fees directly, Ҵ tokens will be awarded via the programmatic inflation of the CHDR supply. Inflation aligns the interests of each stakeholder as the *Cheddur community as a whole*—beginners, experts, companies, and the Cheddur team— collectively pay for the creation and curation of high-quality content.

Comparison Table

Metric	Cheddur	Revain	Utrum
Overall Supply	100M	1,000M	216M
Peak Market Cap (USD)	N/A	610M	6.5M
Current Market Cap (USD)	N/A	25M	0.75M
Platform	Steem	Ethereum	Komodo
Reward Payer	Community	Companies	Utrum
Live	Yes	Sort of	No
Aligned Interests	Yes	No	No
Comprehensive	Yes	No	Maybe?
Beginner Friendly	Yes	No	No
Mobile Apps	Yes	No	No
Claimable Profiles	Yes	No	No
Crowdsourced Content	Yes	No	No

Migrating to 2.0

We will do everything we can in the 2.0 migration to maintain (and improve upon) Cheddur's current level of user experience. Cheddur users should not have to realize they are using a blockchain, and the user experience should align closely to the mainstream social media applications that beginners are used to.

Being that the SMT protocol is in the early stages of development, it is difficult to anticipate every major change that will be needed to migrate from Cheddur 1.0 to Cheddur 2.0. A non-exhaustive list of items is presented below.

Remove the hurdles associated with blockchain to make it so that

General Comment: You want them to know they are using blockchain, but feel like using it is seamless.

Authentication

In order to allow our users to store their Ҵ tokens under their primary Steem account, we will add the ability to sign up and sign in to Cheddur using your Steem account. This will be done using

the SteemConnect identity layer.

Users with a pre-existing Cheddur 1.0 account will be able to link their Steem account as a secondary step within the Cheddur 2.0 account settings.

Existing Reviews

After the Cheddur ICO is completed, each user who posted a review in the Cheddur 1.0 architecture will be able to claim a special reward after linking their Steem account to their Cheddur profile. We will post more details on how we intend to reward our early contributors as we approach the Cheddur 2.0 launch date.

Roadmap

Cheddur 2.0 is slated to launch on May 01, 2019.

Historical

- **Q4-2017:** Cheddur 1.0 is released on iOS and Android!
- **Q1-2018:** Managed Profiles feature is released!
- **Q2-2018:** Deal signed with first private investor! Cheddur team relocates to the Desai Startup Accelerator.
- **Q3-2018:** Cheddur.com website is released! Cheddur undergoes a re-brand.

Upcoming

- **Q4-2018:** Deals signed with private investors in a seed round. Cheddur team is expanded.
- **Q1-2019:** Cheddur 2.0 Alpha and Beta versions are released on the SMT test-net. Marketing begins for the Cheddur ICO.
- **Q2-2019:** Cheddur ICO is conducted. CHDR tokens are listed on exchanges. Cheddur 2.0 launches!
- **Q3-2019:** Additional tokenized content types are added (Chat, News, Q&A)!
- **Q4-2019:** Users are able to buy a select number of coins on the platform using a credit card!

Frequently Asked Questions

Can a malicious user game the reward system by creating multiple, fake accounts?

While it is difficult to stop a malicious user from creating multiple accounts, the creation of these accounts will not affect the distribution of Ꝋ rewards. This is because the CHDR token system uses a "one token, one vote" policy, not a "one account, one vote" policy.

Can a malicious group of users game the reward system by voting for each other's posts?

While coordinated voting (or "vote brigading") is difficult to prevent altogether, the token economics of Cheddur 2.0 discourage this type of activity from happening. In order for any of the coordinated votes to carry enough weight to yield a substantial reward, the users who cast the votes must "power up" a substantial amount of Ҵ tokens inside their accounts. Thus, in order for these users to gain enough influence to carry out the attack, they must first establish a long position and lock up Ҵ tokens.

By proceeding with the attack, any short-term gains will be simultaneously undermined by longer-term losses. In other words, attacking the system will require a user to attack themselves.

What will stop a user from abusing their influence in the network and then immediately selling their Ҵ tokens before the markets can react?

Influence in the Cheddur network takes a substantial amount of time to liquidate. The process of "powering down" vested Ҵ tokens occurs over a 13-week time period, which gives the markets plenty of time to react. Therefore, the attacker will again be attacking themselves.

Can users just up-vote everything in order to maximize their curation rewards?

No. To prevent users from spamming the network with up-votes, each user will be only be able to cast a maximum of 50 up-votes per every 5 days, or ~10 up-votes per day. In order to maximize curation rewards, you'll need to spend those votes wisely.

Why does the CHDR currency have inflation?

Inflation aligns the interests of each stakeholder as the *Cheddur community as a whole*—beginners, experts, companies, and the Cheddur team—collectively pay for the creation and curation of high-quality content. Paying for rewards through inflation also allows review writers (experts) to post reviews on the platform for free, and review readers (beginners) to cast votes for free.

How will inflation be controlled?

(A) Every year, the annual inflation rate will drop by 0.5% until an annual inflation rate of 1% is reached.

(B) As users acquire influence in the network, Ҵ tokens will be powered up and therefore removed from circulation.

(C) An undecided percentage of Cheddur profits may be burned (removed from circulation) each quarter. We are currently seeking feedback from the community on this.