TAGCOIN

TAG PROTOCOL

Blockchain agnostic cryptographic asset mined using Hashtag NFT.

Vishal Vijaykumar Gupta
info@tagprotocol.com
www.tagprotocol.com | www.tagcoin.io

Abstract

Utilizing blockchain technology to build a store of value fungible cryptographic asset named as **Tagcoin** which has limited and defined supply that can be mined by staking another non-fungible cryptographic asset called #hashtags which can be registered and acquired as a NFT token. Tagcoin Mining yield on the #hashtag NFT miner is derived from measuring #hashtag's performance on various social media platforms using a transparent **#hashtag Performance Grading** System.

Premise

Bitcoin began as a peer to peer cash system with the objective of building a token and settlement network that can be used by people to settle trades or buy products and services. As things transpired it has evolved into a store of value token, that people see more value in holding or **hodling** as opposed to utilizing it for their day to day financial settlements. The evolution of an idea and its use cases adapting to market needs is a perfectly normal process. This leads us to ask ourselves if the existing tokenomics of bitcoin lends itself to be the best design as a long term store of value asset. Although we do not question the legitimacy of bitcoin or it's path breaking solution to resolve the double spend problem. This project is our effort to build a more robust store of value ecosystem that will lend itself to people looking for an alternative means to save their hard earned money.

Problem

Genesis. Our current economic system or model is based upon inflationary supply of currency. Central banks around the world will keep expanding currency supply over time to fund government deficits. This creates a conundrum for citizens as there are no gains to be made with their hard earned savings as increasing supply of currency constantly leads to rise in the prices of goods and services they consume. This forces people to invest their capital in various financial products and assets. All of these financial instruments and industries are heavily regulated by the government and controlled by a few large corporations. People are forced to hand over their savings to these organizations to earn minuscule to no returns to protect themselves against constantly rising inflation.

Reaction. Crypto-Currencies found a space in this vacuum created by rising government debt and depreciating value of fiat currencies around the world. Many businesses and wage earners saw value in saving their capital by investing in various crypto currencies. Limited supply of coins and future potential of blockchain technology were primary reasons that drove this investor behavior.

Value. The four primary value propositions provided by the Crypto Ecosystem:

1. Creation of crypto coins or tokens that have limited supply which can act as a tool to protect individuals against inflation.
2. Crypto Wallets that allow for self ownership or possession of various crypto assets by the individual hence removing the need for trusted third parties to store or protect assets.
3. Blockchain; a decentralized trust-less transaction settlement system that operates independently of any third parties protected by a network of computers that are incentivized by mining or staking processes for their services.
4. Smart contracts on the blockchain that can help businesses and Individuals to use the network as the arbitrator or an executor of pre-defined transactional relationships between them.

Limitations. As the Crypto ecosystem grows many processes used to achieve these four objectives have been analyzed and debated by users and observers alike. Although there is a general consensus around benefits of decentralization and use of blockchain in principle there are still many functional questions that don't have a definitive answer.

- What is the environmental impact of mining on the environment?
- How can mining be made more energy efficient?
- How much transactional scalability can be added to an individual blockchain while keeping the ethos of 100% decentralization intact?
- How many similar blockchains with micro differences can the ecosystem sustain?
- What is an ideal tokenomics for any coin or token to create sustainable value for people looking to save their capital?
- What is the ideal share of tokens that a creator of any blockchain project should have to protect other participants and create a level playing field?
- On what fundamental values or use cases should the price of any coin or token, both fungible or non fungible need to be evaluated on?

Result. This has led to the creation of a robust industry wherein developers around the world have built or are building various blockchain projects in a quest to resolve some of these limitations identified within the existing architecture of currently operating blockchains. This has fueled mega innovation that has led to periodic launch of new blockchain projects at a recurring interval. Investors, savers and speculators alike have shown great interest by participating in initial coin offerings of these projects. It is now like a perpetual race to the finish wherein investors are forced to identify and pick projects that may dominate the space in the future to hedge their risk.

Issues. Although the process of natural selection is a great thing for the development of the blockchain ecosystem, It puts investors looking to identify opportunities to deploy capital towards long term savings in a store of value coin system in a conundrum.

Solution

Tag Protocol project is an endeavor to find answers and resolve some of the issues plaguing the current store of value coins. Our vision is to build a coin ecosystem that is blockchain agnostic. A coin ecosystem that can deploy and migrate it's smart contract structures to any SmartChain Platform based upon community consensus.
Any individual in the Tagcoin community can propose a migration from the active host blockchain to another blockchain along with their reasoning and the community can deliberate, analyze and vote for or against this proposal. This ensures the community maintains a consistent coin tokenomics that they can deploy their savings to, while also having the ability to adapt or migrate to the most advanced blockchain technology available based upon changing needs identified by the community based upon consensus.
The logical fallacy being that a good store of value token discovers value from the continuity of it's tokenomics and that the blockchain is merely a host that provides required security and settlement network for transfer and storage of coins for the community around it.

Objective. build a blockchain agnostic coin ecosystem that has a well defined production, mint and burn tokenomics and uses #hashtags based NFT tokens as it's virtual mining machine rather than a physical mining machine to save on additional electricity consumption.

Tag Protocol Ecosystem - Brief Functional overview

System starts with building a **#hashtags registry** by deploying a smart contract that enables participants to choose and register unique #hashtags. the contract in return issues the participant an NFT token with the value of their unique #hashtags stored within it. All registration transactions are handled by a treasury contract that is responsible to manage payments and produce #hashtags for distribution to the participants.

This process ensures that ownership of a #hashtags is handed over to the rightful owner and no other participants can register a #hashtags with the same value. #hashtags NFTs once issued to a participant becomes a virtual mining machine that mine Tagcoins. The System works by auto staking all the #hashtags registered on the #hashtags registry contract on the #hashtag Staking Contract.

The process of mining Tagcoin starts with the #hashtag Staking Contract requesting the #hashtags's performance data from the #hashtag performance oracles. The oracles track and record performance data of each staked #hashtag on various social media platforms and broadcast this information to the Tagcoin mining contract. The mining contract then calculates Tagcoin earnings of each #hashtag using the data provided by oracles.

The earnings data is stored within the Staking Contract and participants can check this information by querying the systems application interface. The participants can then request their earnings from the mining contract by sending a claim request to the smart contract which in return delivers Tagcoin to their wallet.

The Staking Contract upon receiving the request instructs the Tagcoin Mint Contract to produce an exact number of Tagcoins owed to the participant. The Tagcoin mint takes in these requests and produces Tagcoins which are then sent to the participants directly.

Once the participants have received their Tagcoins they can choose to either hold, trade or transfer these coins to any other participant on the network.

#Hashtags as NFT or non fungible token

In today's world of social media, users can be overloaded with mountains of data being produced and shared with them. Use of #hashtags make it easy for them to cut through digital clutter and focus only on the information they really want access to. #hashtags are typically used on social media sites such as Twitter, Instagram to categorize posts to make it easy for their users to search and discover posts based on their interest.

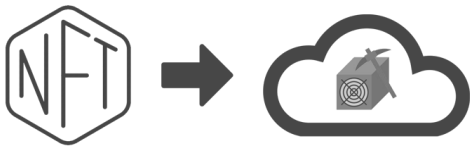
The use of #hashtags as a means to aggregate and organize data is indispensable to manage data online. The use of #hashtags as a content management tool is an indispensable method for active web applications as well as applications that might be built in the future; Hence a #hashtag can easily be

classified as a digital asset that will last the test of time. The use of these #hashtags to categorize content on various web applications can easily be tracked and quantified.

This makes them an ideal virtual asset. Allowing netizens to register and own #hashtags seem like a logical progression. It allows netizens to own a piece of digital real estate that derives its value based on usage on the internet, a unique collectible that may also be traded.

Utilizing the ability of blockchain to issue NFT/Non Fungible Token to store unique #hashtags values on the blockchain and issue NFT tokens as proof of ownership to the participants. This means a #hashtags once issued cannot be registered by other participants.

#Hashtag NFT token - A tagcoin virtual mining machine



We have learned that #hashtags are like a virtual asset that can be registered and issued as NFT tokens on the blockchain and also that the performance or usage of these #hashtags on the internet can easily be monitored and measured.

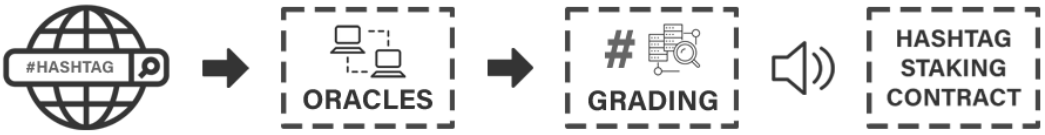
Taking advantage of these unique features we are converting these #hashtags NFT's into an energy efficient performance based Tagcoin mining machine. Participants simply have to register these #hashtags NFT's and hold them in their wallets.

Tag Protocol's **performance oracles** will monitor the performance of these #hashtags on a daily basis and broadcast their performance data to a **Hashtag Staking Smart Contract** on the host blockchain. The Tagcoin mining contract calculates earning of each #hashtags NFT based on it's performance data provided by the oracles and makes the Tagcoin earnings data available for claim to the #hashtags owner..

The owner of a #hashtag can then claim their Tagcoins by broadcasting their claim request to the blockchain by using the application interface. The mining system will mint fresh Tagcoins based upon the outstanding claim amount due for a particular #hashtags in it's record and send them to the owner's wallet upon receiving the request.

Please note the system keeps records of all outstanding claims but does not pre-mint these coins. The owners must make a claim request before minting the Tagcoins. This will have a direct impact on the circulating supply of Tagcoins.

Performance Oracles & #Hashtag Performance Grading



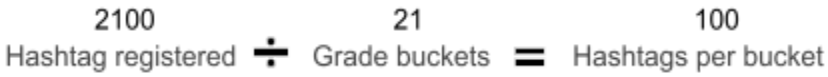
Definition. Performance Oracles are independent nodes that collect performance data of each #hashtag registered on the protocol's #hashtag NFT contract. They further have a job of ranking and grading these #hashtags based on raw performance data they have accumulated from the web.

Consensus. Integrity of data collected by the oracles is regulated by consensus. Any participant on the network can become an oracle by staking their Tagcoins. They can then start collecting this data for the protocol. The final output or results that are broadcasted to the mining contract are based on consensus between various participating oracles.

Data Collection. Raw data is collected by calculating the number of unique individual pages indexed by google for each #hashtag for a particular social media platform. For e.g. If we ran a query using google.com search API (site:twitter.com "#love") it will fetch the result for the number of twitter posts google has indexed with a specific #hashtag such as #love included in them. When this query runs every day at a specific time, for instance 12.00 GMT the oracle can calculate the increase in the number of pages indexed on a daily basis. The oracle's job is to store this performance data for each #hashtag on a daily basis.

Ranking. The oracle's use this raw data to compute the rank of each #hashtag on a daily basis based on the number of indexing on that particular day. The ranks of every #hashtag will change based on their performance hence will affect their earnings on a daily basis.

Grading System. The system places each #hashtag in a grading bucket. The grading system works by dividing the total number of #hashtags by 21. For e.g. If the system has registered 2100 #hashtags then they will be divided by 21 and each bucket will have 100 #hashtags respectively. In such a scenario #hashtags from rank 1 to rank 100 will be in bucket 1 and #hashtags from rank 2001 to 2100 will be in bucket 21. Think of each of these buckets as a grade. So all #hashtags are graded between grade 1 to grade 21.



Earnings Calculation. Each bucket has a predefined amount of Tagcoin allocated to it. This is done by applying a bell curve wherein grade 1 #hashtags collects plus 50% of the median value and grade 21 #hashtag collects minus 50% of the median value.

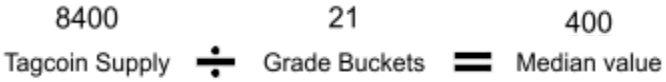


Table below shows the exact allocation of Tagcoins for each grade based on 10,000 Tagcoin supply per hour and 2,100 staked #hashtags. The hourly supply will change after every halving event. Refer to Tagcoin token supply

Grade	Tagcoin Share	Hashtag Staked	Payout Per Hashtag
1	600	100	6.00
2	580	100	5.80
3	560	100	5.60
4	540	100	5.40
5	520	100	5.20
6	500	100	5.00
7	480	100	4.80
8	460	100	4.60
9	440	100	4.40
10	420	100	4.20
11	400	100	4.00
12	380	100	3.80
13	360	100	3.60
14	340	100	3.40
15	320	100	3.20
16	300	100	3.00
17	280	100	2.80
18	260	100	2.60
19	240	100	2.40
20	220	100	2.20
21	200	100	2.00
Calculations based on hourly mining output & 2,100 hashtags staked			

Merit. The objective behind placing #hashtags in a grading system based on rank is to reduce the cost on oracles to broadcast data to the Tagcoin Mining Contract. It also serves the purpose of reducing the number of transactions the oracles have to fire to the staking contract.
The base logic being if the system works purely of the ranking based performance then if a #hashtag moved rank from 2,100 to 1 on a given day then oracles would have to fire 2,000 transactions to update the contract as rank of all other #hashtags would have changed. In the grading system this particular #hashtag would have moved from grade 20 to grade 1 but oracles would now just need to update the grade of only 20 #hashtags as only one #hashtag would be displaced from grade 1 as its rank went from 500 to 501. This logic repeats itself down the line up to grade 19 bucket. One #hashtag in and one out of the grade buckets. This allows the system to manage both scale and cost efficiency of the mining process.

Hashtag NFT Token Supply

Phase 1. #Hashtag NFT Registration

The project will allow registration of only 100,000 (100K) #hashtags in phase one. Participants will be able to register and pay for #hashtags using only BNB BEP20 tokens in this first phase.

This is done to ensure the scarcity of #hashtag is maintained. Since #hashtags also act as a virtual mining machine and their supply has a direct impact on Tagcoin mining difficulty.

The price of a #hashtag will increase by $50 upon registration of each lot of 5,000 #hashtags. Once all 100,000 #hashtags are sold phase one of the sale will be closed.

Lot	Htag Quantity	Price
1	5000	200
2	5000	250
3	5000	300
4	5000	350
5	5000	400
6	5000	450
7	5000	500
8	5000	550
9	5000	600
10	5000	650
11	5000	700
12	5000	750
13	5000	800
14	5000	850
15	5000	900
16	5000	950
17	5000	1000
18	5000	1050
19	5000	1100
20	5000	1150

Phase one hashtag sale lot number and price

Phase 2. #Hashtag NFT Auction.

After the closure of phase one system will launch phase two of hashtag sales. In this sale participants may bid for limited 30 hashtag purchase vouchers available in an open auction everyday. The participants can bid for these vouchers using tagcoins only.

The top 30 bidders will receive a hashtag purchase vouchers with which the winners will be able to register the #hashtag of their choice. The Tagcoin proceeds collected through this auction will be burned by the auction contract. This burn process will help reduce the supply of Tagcoins which creates more value for existing Tagcoin holders.

#Hashtag Value Discovery

#Hashtag NFTs or Tagcoin virtual mining machines are a very valuable and rare asset, unlike Proof of Work miners that depreciate in value over time. Because the supply of #hashtags is limited to 100,000 NFT tokens during phase 1 of the registration process, #hashtag NFTs can increase in value over time.

Subsequently only 1,000 #hashtags will be sold every month. This ensures that there is limited supply of #hashtag NFTs that participants can buy. This means new participants looking to buy these #hashtag NFTs to mine Tagcoin have to buy them off the secondary market from the existing #hashtags NFT owners. This creates the possibility of building a robust marketplace where participants can trade #hashtags.

The value of each #hashtag could be assessed on the basis of its Grade, Rank or potential Tagcoin Yield it may produce in the future. The price discovery may also be affected by change in the price of Tagcoin itself, as higher price means greater Tagcoin income and lower price means lower Tagcoin income for the #hashtags owner.

The Table below shows yearly supply of tagcoin vs yearly supply of Hashtag NFT and expected average yearly tagcoin output per hashtag. The real output may differ based on an individual hashtag's performance.

Supply	Tagcoin	NFT	NFT Circuilation	Mining Inflation	Tagcoin Per NFT
Year One	87,600,000	112,000	112,000	100	782.1429
Year Two	43,800,000	12,000	124,000	10.71	353.2258
Year Three	21,900,000	12,000	136,000	9.68	161.0294
Year Four	10,950,000	12,000	148,000	8.82	73.9865
Year Five	5475000	12,000	160,000	8.11	34.2188
Year Six	5475000	12,000	172,000	7.50	31.8314
Year Seven	5475000	12,000	184,000	6.98	29.7554
Year Eight	5475000	12,000	196,000	6.52	27.9337
Year Nine	5475000	12,000	208,000	6.12	26.3221
Year Ten	5475000	12,000	220,000	5.77	24.8864
As Tagcoin Production Reduces over time it has direct impact on how mauch tagcoin an average NFT miner can earn					

Tagcoin Token Supply

Tagcoin is the reward distributed to #hashtags owners for their participation in the staking process. It is the default cryptographic asset produced by the protocol's #hashtag staking system. It has a pre-defined production rate and is limited in supply just like Bitcoin or Ethereum. The protocol will start by producing 10,000 Tagcoins per hour and reduce the production by half every year until the first five years. The production rate after five years will become static. The minimum production of Tagcoin is maintained to ensure that #hashtags miners still keep earning yield on their #hashtags staking activities.

Token name: Tagcoin | **Token symbol**: TAGS | **Token type**: BEP20 | **Supply:** Pre-defined production rate

Tagcoin Production Table

Production	Hourly	Daily	Yearly	Max Circulation	Inflation Rate
Year One	10,000	240,000	87,600,000	87,600,000	100
Year Two	5,000	120,000	43,800,000	131,400,000	50.00
Year Three	2,500	60,000	21,900,000	153,300,000	16.67
Year Four	1,250	30,000	10,950,000	164,250,000	7.14
Year Five	625	15,000	5,475,000	169,725,000	3.33
Year Six	625	15,000	5,475,000	175,200,000	3.23
Year Seven	625	15,000	5,475,000	180,675,000	3.13
Year Eight	625	15,000	5,475,000	186,150,000	3.03
Year Nine	625	15,000	5,475,000	191,625,000	2.94
Year Ten	625	15,000	5,475,000	197,100,000	2.86
Prouction of 625 Tagcoin per hour continues in perpetutiy post year five					

Distribution of Tagcoin

Tagcoins produced every hour will be split amongst various participants in the following ratio.

TAGCOIN BENEFICIERIES	SHARE	AMOUNT	
HASHTAG STAKERS	84%	8,400	*Tags per hour*
HASHTAG PERFORMANCE ORACLES	5%	500	*Tags per hour*
LIQUIDITY POOL TOKEN FARMERS	5%	500	*Tags per hour*
TAG PROTOCOL FOUNDATION	5%	500	*Tags per hour*
PROTOCOL MIGRATION FUND	1%	100	*Tags per hour*
HOURLY DISTRIBUTION RATIO	**100%**	**10,000**	

Pre-minting of tagcoins. Please note that the protocol will pre-mint 10,000,000 tagcoins that will be utilised for the following objectives.

- **1,000,000** tags will be added to the liquidity pools to jump start trading on pancakeswap.
- **4,000,000** tags will be used towards development & maintenance of the project.
- **5,000,000** tags will be used towards Marketing & Promotions related activities.

Tagcoin Burning

Coin burning is the process by which digital currency miners and developers can remove tokens or coins from circulation, thereby slowing down inflation rates or reducing the total circulating supply of coins.

Tagcoin will be burned or removed from the active circulation every month by the protocol. The amount of Tagcoins to be burned is decided by the proceeds collected from the monthly #hashtag auction event.

The protocol will auction 30 #hashtags every day for which participants can pay with Tagcoins only. The Tagcoins collected through this process are sent to a burn contract which destroys these Tagcoins.

The burn process helps reduce the Tagcoins from the active circulating supply. This process can have a positive impact on the long term valuation of the Tagcoins.

Tagcoin Value Discovery

Circulating Supply. As tagcoin is primarily designed to be a store of value token that participants may find more value in storing rather than trading, as the Production of tagcoins drop by half every 12 months. This halving will continue for the first 5 years of production.

Delayed Minting. The tagcoins that are mined by the hashtag owners are not automatically minted until the hashtag owners send a claim request to the tagcoin mint contract.

Tradeable Supply Reduction. This refers to tokens that are actually available in the marketplace for the purpose of active trading as opposed to the actual supply. Many participants may deploy their tagcoins to various secondary activities such as Yield Farming and Liquidity pool farming that tends to lock their coins for a period of time. This can lead to shortage of tagcoins in the open market.

Daily Tagcoin Burn: The proceeds collected from the daily hashtag auction are burnt which further reduces the active supply of tagcoin from the circulating supply.

Oracle staking deposits: In order to become a performance oracle applying participants must provide a security deposit that will be perpetually locked into the oracle validation contract.

Protocol Governance

Tag Protocol is a DAO or a Decentralized Autonomous Organization; this means there are no owners or shareholders of the project. The objective is to eventually establish a governance structure that enables protocol participants to make all critical decisions regarding the future and day to day operations of the protocol. Any participant can recommend a change in operational functions within various smart contracts deployed by the protocol. Other participants can analise, deliberate vote on these proposals. They can either reject or accept these suggestions. Further details and specifications regarding the protocol governance will be added as an update to this document in the future.

Conclusion

Crypto or blockchain industry is a work in progress. The nature of almost all projects are experimental in nature. This is enabling discovery of new technologies, ideas and better ways of managing financial systems. One of the key reasons why crypto-currencies resonated with people was the limited supply of coins providing alternative means to save earnings to fight against inflation. As more projects try to establish newer blockchain ecosystems with their own coins there is a need to build a coin ecosystem that can provide people with both continuity and adaptability. This will help build a store of value system that all can agree and benefit from while also having the option of moving to a better blockchain as technology evolves.

On the other side NFTs are gaining attention as a means to tokenize digital & physical products as well as services. The introduction of hashtag as a virtual mining machine that can be used to mine coins represents an alternative mining methodology. Since the hashtag NFTs are a yield generating asset the earnings data collected is a great tool to identify the indicative value of these assets. This is an improvement upon existing market practice of issuing NFTs in the marketplace that are being traded upon the notion of value based on demand and supply rather than any base performance matrix.

Risks Associated With Participation in A Blockchain Project

Cryptocurrency & Blockchain projects are high risk operations because of their experimental nature. By participating in this operation, participants declare to understand and assume the following risks:

The lack of regulation: the participants agree not to benefit from any guarantees associated with presale on regulated financial markets or other regulated financial investments.
Capital loss: the participants accept the risk of a total or partial capital loss in cryptocurrency or in the token.
Volatility or market risk: the value of tokens, just like that of cryptocurrencies in general, can be extremely volatile and subject to significant, and largely unforeseeable fluctuations. Moreover, the market or markets on which these tokens are traded do not offer the same guarantees that are generally applicable to conventional financial markets.
Change In System: As the nature of the crypto projects are experimental in nature there could be abrupt changes or disruption in services on account of technological challenges or inevitability.