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http://www.teatoken.io

Connecting Suppliers to Consumers in the Specialty Tea Trade Through a Peer-to-Peer Blockchain

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SUMMARY

The Blockchain software company TeaToken was formed with the explicit purpose of developing a decentralized peer-to-peer (P2P) marketplace. TeaToken is launching its platform Teabay™, which is a peer-to-peer e-commerce platform focused on connecting consumers directly to tea farmers all across the globe. TeaBay will be based on the Ethereum Blockchain's smart contract protocol.

Throughout history, tea has consistently played a major role as a commodity in nearly every culture. Developments in transportation have changed the way that tea is shipped all over the world with the introduction of major sea shipping, motor vehicles, and eventually aircraft reducing shipping times and costs of ordering tea. Although the procedure for shipping tea has changed over time, the relationship between the growers, suppliers, distributors, and consumers has not. Distributors today still have control over the price of tea.

Due to its decentralized nature, TeaBay offers significant advantages over traditional, centralized e-commerce platforms. With an increase in internet access increasing rapidly all over the world TeaBay will open up the opportunity for farmers to sell their product directly to consumers and evade all the costs imposed on them by the corporations and unnecessary middlemen.

TeaBay will offer powerful tools to facilitate both the user experience and to protect customers and merchants. These tools include instant search, customisable filters to screen items, a reputation system. All third parties are removed from the trading process which allows for radically lower fees, a high degree of privacy, and zero censorship. This will improve the quality of life for the many tea farmers and their families, the majority of which earn just less than $2 a day.

All payments on TeaBay are made in cryptocurrency, principally in TeaTokens, which can be held in an integrated wallet for convenience, or, if preferred, in an external wallet. TeaTokens will be a highly liquid cryptocurrency that offers the functionality for fast peer-to-peer transactions on TeaBay. Payment processes will eventually include Shapeshift – and later also fiat-to-crypto services - in order to ensure user-friendliness.

TeaBay is a fully decentralized e-commerce marketplace which runs on TeaTokens on a private permissioned Blockchain, developed on Ethereum, to enable global real-time trade and financing. Thus, we plan on using this platform as the much-needed bridge to overcome infrastructure deficit and connect consumers directly with the people who product their product.

All team members believe in the founding ideals of Bitcoin and the Blockchain technology and strive to redefine e-commerce as a free, efficient and fair in the globally connected 21st century.

WHERE TEATOKEN FITS IN

As consumers quickly start to adopt P2P marketplaces, there will be a space for start-ups to create innovative platforms for more traditional markets. These marketplaces are efficient at bringing a broader array of goods at cheaper prices to a much larger number of potential consumers. The ability to share instant feedback on the goods purchased are significant advantages over traditional marketplaces. These marketplaces will be at the forefront of a huge revenue source, running traditional distributors out of business.

TeaToken is taking charge of disrupting the tea industry. A P2P Tea marketplace with the capability of cutting out the distributor, the middleman that can charge any fee schedule that he sees fit: TeaToken wants to place the power of the tea trade industry into the hands of the people.

By improving certain fundamentals of today's e-commerce consumers can pay less overall for their product and suppliers can take in more revenue. By essentially recreating the infrastructure of an e-commerce store using smart contracts, TeaBay intends to life e-commerce to a different level by eliminating the disadvantages of middlemen and making the e-commerce market for tea more efficient.

OPPORTUNITY

TeaBay plans to implement smart contracts to provide a marketplace infrastructure and the use of the cryptocurrency, TeaTokens, for customer purchases, advertising and merchant listing fees. By using smart contracts for the creation of the marketplace the need for third parties that have previously always been necessary for hosting and payment processing.

E-commerce giants like Amazon and eBay depend on extensive server farms to host their websites and to deal with traffic. This approach is highly efficient when compared to traditional retail outlets, but still has substantial costs associated with it. By powering TeaBay on the Ethereum Blockchain, we can replace these large server farms with code. The overhead of running a global e-commerce store is eliminated by distributing the computing power amongst Ethereum miners who are paid to maintain the network. This will allow TeaTokens to pass the savings this brings to the market participants in the form of low fees.

TeaBay provides opportunities to farming communities to improve product quality, community livelihoods and the consumer tea experience. This marketplace allows TeaToken to undercut corporations and middle-men by allowing farmers to sell directly to consumers, thus disrupting the traditional supply model. Farmers now would not need to pay someone to store, repackage and re-label their products. The extra revenue the farmers will make will allow the financing of capital equipment necessary to increase the value of commodities in the country of origin, bringing more equity to local businesses and communities in emerging economies

WHAT GIVES TEATOKEN VALUE?

Unlike most cryptocurrencies, TeaToken is related to a market- the tea industry. Unfortunately, as many people have experienced, markets are susceptible to collapsing in times of economic hardship. However, tea is an

exception to that rule. In the past 30 years, during a time of economic downtime, the tea market has had a reverse effect. Instead of the monthly price of tea decreasing along with other goods, it has risen- as it is a supplementary good. The demand for tea will create and potentially increase the value of the TeaToken itself because it serves as both the digital currency and the distributed ledger token that powers the TeaToken platform.

TeaToken does not only aim to change the way consumers buy and sell tea. Tea is considered a commodity, basing a cryptocurrency on it creates a stable growth during economic booms and a limited downfall during economic stagnation. No longer will your cryptocurrency become worthless. If tea is in high demand, then so should your TeaTokens. As the tea industry grows, you will grow along with it. Tea has a very low chance of losing demand so when you hold a TeaToken; you are virtually holding a commodity which grows in value as the economy changes.

TeaToken will encourage suppliers to follow the guidelines of 3 TeaTokens per 1 kg of tea. The aim of this goal is to create a hedge against devaluation if the value of TeaToken dips below what it was intended to be and to protect both TeaToken holders and suppliers from daily volatility. Although it is not required, the suppliers with the best prices will have a higher demand product.

HOW TEATOKEN ADDS VALUE

TeaToken works as a single currency for instantaneous transactions. TeaToken is more efficient in that it removes the middlemen that create issues among consumers and suppliers in the tea market. TeaToken is able to decrease the loss of value in the global specialty tea supply chain by decreasing the amount of currently used multiple currencies and exchange fees. It can be traded easily, and more importantly, freely, and it is supported on the Ethereum Blockchain. This means, a producer in Sri Lanka can sell his or her tea directly to a buyer in America without going through the traditional system requiring banks, loans and middlemen.

The tea producer receives a better price for his or her tea causing the buyer to receive a direct-trade price and a higher quality of coffee. As a digital currency on the Ethereum Blockchain, TeaToken is able to carry secure, indestructible, and verifiable data. This means it can be used for tea contracts, pricing quotes, selling location, origin details/verification, shipment tracking, etc. This can reduce and potentially eliminate the need for the multiple, inefficient communications via fax, phone, e-mail, messages that are unfortunately standard in the industry today.

Farmers, brewing, and steepers alike can use TeaTokens to crowd-fund sales and purchases of specialty tea lots - to not rely as heavily on loans, middlemen, and banks to keep their businesses and families afloat and thriving.

This raises the value and decreases the cost of producing the tea for farmers, keeps the farmers out of debt through loans, and increases business for the importers and exporters as they are still needed to help with the shipping and Customs' synchronization. Brewers will now have access to micro-lots of specialty-grade shrubs more directly from those willing to offer them. This opens the door to thousands of boutique brewers and

steepers who previously had limited access to smaller volumes of specialty-grade tea. It also offers farmers and cooperatives more opportunities to sell their best herbs and shrubs at a higher premium.

HOW TEATOKEN WILL CHANGE THE TEA INDUSTRY

For the first time ever, the Ethereum Blockchain will be used to connect suppliers and consumers through a P2P marketplace. No longer will consumers have to abide by the massive fees put out by the middleman. There will be a shorter, more direct connection from end-to-end in the supply chain.

Furthermore, TeaToken will establish a ledger that will show your package's status at all stages of your transaction. The supply chain order will be consistently tracked on a ledger, leading to increased connectivity from end-to-end. Not only will you be closer to your supplier, the information and status of your order will be too!

TeaToken has a mission to disrupt the old ways of the tea Industry, forever, through establishing a fully transparent ledger of ownership, cutting out unnecessary parts of the supply chain, and creating as direct connection from end-to-end on the supply chain as technologically possible through its decentralized P2P marketplace.

THE MARKETPLACE

OVERVIEW

TeaBay is a completely new king of Blockchain-based e-commerce application with the advantages of a decentralized architecture. The two biggest competitors that exist are popular shopping sites and prevailing monetary systems and payment methods. The technical features will be crucial to maintain its advantages of privacy, freedom, low cost and user experience. In order to ensure broad appeal, a simple user-friendly interface will be implemented.

TeaBay will both be a website and a downloadable app. This will allow make sure that the platform is accessible from every user's personal computer, and there is no single point of failure. No Blockchain download is required, although, if the user does have a copy of the Blockchain it will allow users to use the marketplace with no internet connection. This is how we plan to deliver the market to tea farmers where access to the internet may be limited.

TeaBay will be available for Windows, Mac OS and Linux, and mobile version for iOS, Android and Status.im will be developed. Since TeaBay is intended for global commerce, it will be launched in 20 languages, with further languages to be added in the future.

TeaBay will include an internal wallet for every user as well as offering a downloadable wallet for offline storage. All payments for goods and services are made in TeaTokens from this wallet, because the funds need to withdraw and sent to a smart contract at the time of purchase. The internal wallet can be funded from either an external Ether wallet or via ShapeShift from within TeaBays interface.

Funds can be withdrawn from the internal wallet anytime and be sent to an exchange or external address. The internal wallet is fully decentralized, and any TeaTokens stored there remains in the users' control. The wallet is secured with a user-generated passphrase that must be created before the marketplace can be used. Support for multiple wallets within the marketplace is planned.

RATING SYSTEM

Reputation systems play a crucial role in establishing trust in online communities and drive many modern online businesses, ranging from auction markets to transportation companies. A typical reputation system features a collection of actors executing a protocol that allows users to leave reviews for their interactions with each other. Feedback accumulates over time, and can be queried by others users in the system.

TeaBay will provide a rating system for both the farmers and the consumer. Users with low or negative reputation score may be filtered out in order to protect buyers and sellers from fraud and wasting time

PAYMENT SEQUENCE

The following sequence illustrated arbitration on TeaBay

- The seller creates a listing and chooses a "negotiator" who a set fee, to be charged only in the case of a dispute. At this point, the arbiter does not get paid and is a deposit on the gas fee in case it needs to be called.

- The buyer purchases tea. Their money moves from the wallet to a smart contract

- The seller ships the tea to the buyer and indicates to the contract that they have fulfilled their part of the sale

- The buyer receives the tea.

- At the point, the buyer can finalize the sale or open a dispute. If the sale is finalized, the money moves from the smart contract to the seller. The transaction is settled, the arbiter does not get paid and the seller is refunded the fee

- If the buyer open a dispute, two things can happen:

  o The seller agrees with the dispute, and the money moves from the smart contract back to the buyer's wallet. The negotiator does not get paid.

  o The seller also wants to open a dispute. In order to do so, the seller pays $5 in fee to a smart contract

- At this point, the negotiator gains control of the tokens, and he can send the money only to the buyer, or to the seller, or to both in a ratio that he chooses.

- The negotiator only gets paid if both parties dispute the transaction. In that case he is fully paid by the seller, out of the escrowed funds. If there is no dispute, the negotiator does not get paid, and choosing a negotiator was free for the seller. For the buyer, opening a dispute and arbitration always is free of charge

FILTERS

By the fundamental design of TeaBay, censorship is not possible since the entire Blockchain needs to be viewable to everybody. Listings and transactions are written directly into the Ethereum Blockchain, which is securely maintained for thousands of miners around the world. It is not possible to control the listings of the items, neither TeaToken nor any third part remove the listings.

TeaBay will contain a filtering system. The system does not remove the listed items from Blockchain, but it enables users to filter out results so that they are no longer displayed. TeaBay will include a basic filter for now, which will be maintained by the TeaToken team and which is turned on by default. Only known tea farmers will be allowed to sign up to be a seller on the platform.

INSTANT SEARCH

Many e-commerce sites provide powerful instant-search tools to help customers find what they are looking for quickly and to browse the site smoothly and easily. TeaBay offers the same. Buyers will be able to use a search engine-like functionality by simply entering the desired item, and as they type, they receive a constantly updating list of matching products in real time. To conduct a search, no login is needed, making it possible for everyone to browse TeaBay without registering. The chat function is only enabled after registering, but as it runs independently of Ethereum, it can then be used without having to log in. Potential buyers can engage anonymously with merchants to ask questions and clarify sales policies, prices, and shipping.

TECHNICAL DESCRIPTION

Tea Bay utilizes Ethereum smart contracts to list items for sale, to organize the buy and sell process, to hold escrowed funds, and to allow communication between buyers and sellers. Smart contracts enable a transparent and safe trading process. Messages mandatory to the purchase process are stored on the Blockchain. Non-mandatory and private communication can be moved to an off-Blockchain platform to reduce costs and improve speed. As all data on the Ethereum Blockchain are publicly visible, private communication requires encryption.

TeaBay does not use encryption to promote trade in illegal items or to foster a scam ecosystem, but reflects the lessons learned from the mass violations of privacy that have occurred in recent years. A decentralized, Blockchain-based system is less prone to theft of personal information. But it needs strong cryptography to protect that data, since the data are exposed on the public Blockchain.

TeaBay will use the elliptic curve Curve25519 for private-public key pair generation.

Advanced encryption standard (AES) is used for data encryption, and one-time private keys are generated for the buy session. One-time keys allow the buyer and seller to share their communication with a third party, e.g. the negotiator, without revealing their private keys.

TeaBay shares private keys for both encrypted communication and Ethereum wallet generation. The private key is stored in the user data folder in JSON format, encrypted with the user's password.

The store itself is a smart contract holding a list of events. Each event is a new listing. Anyone can add new listings to the store by paying the listing fee. Using events is a cheaper way of utilizing the smart contracts' publicly visible storage.

Each new listing is stored inside and corresponds to a separate smart contract. Events in the store only reference those contracts by the contract address. Each listing contract also stores a list of events representing the trade history of the item. Additionally, each item's contract provides escrow functionality and safely holds the funds until the purchase process is finished

The escrow system is provided by the listing contract itself. Funds paid by the buyer stay inside the contract and await confirmation from the buyer. If the buyer says YES, the money is sent to the seller. If the buyer says NO, the money is locked up in a disputed state. At this point, the seller should choose YES or NO to either send the money to the buyer or to require arbitration. If both parties say NO, the money is locked and a third party negotiator will choose whether to unlock the money to the buyer, to the seller, or to both in some ratio. The negotiator takes a percentage fee or a set fee from the escrowed funds for this service

Each product for sale has a history of buys and sells, known as orders. Each order contains useful information about the action, timestamp, any attached encrypted message, and information about the message sender. Encrypted messages are decrypted automatically by the backend if the user is logged in and if he is either the buyer or the seller.

When the app loads the orders, they are grouped by the purchase order so each item may have multiple purchase orders and each purchase order may have multiple related orders. A purchase order can be understood as a buying session and it has some session-related fields attached: a session key for encrypted communication, a buyer's public key, a buyer's account, a purchase and a received payment amount, a message from the buyer with shipping info, and other useful information.

BUSINESS MODEL

TeaBay's revenue model differs fundamentally from those of traditional e-commerce platforms. Traditional e-commerce platforms typically charge a commission on the sale price, sometimes in combination with a flat fee. Buyers may also have to pay fees to PayPal or other payment processing solutions.

In contrast, TeaBay charges customers (buyers) zero fees and merchants (sellers) are not charged a commission on the sale price of their products. The only costs imposed by TeaBay are payments for the service of listing an item. This takes the form of a flat fee, approximately equivalent to $1, which is paid in TeaTokens (TEA). The listing fee will be $1, regardless of the value of the product for sale. TEA will be a reusable ERC20 token that is freely transferable on the Ethereum Blockchain and can be held within TeaBay's integrated wallet, or in an external Ethereum wallet, if preferred.

The price of TEA will vary over time, based on a number of factors: ·

- Organic growth of user demand

- Speculative demand

- USD/ETH exchange rate

- The cost of gas within the Ethereum network.

While TEA will fluctuate in value against fiat, BTC, and ETH, the listing fee within TeaBay will be constantly adjusted to track $1 as closely as possible. For example, if TEA is each worth $0.04, then 25 TEA will be needed for listing an item; if TEA is worth $4, then 0.25 TEA will be needed for a listing. Items can be purchased with either TEA or Ether but only the listings can be paid for in TEA.

TEA tokens can be purchased directly within the app, or from other TEA holders on external markets (cryptocurrency exchanges, OTC, etc.). TeaToken is making these tokens available ahead of TeaBay's launch at a low initial price in a crowdsale. The long-term value of TEA will reflect TeaBay's adoption and its active user base. Early participants who purchase TEA during the token pre-sale will receive the tokens at a steep discount, and they will have the opportunity to participate from the start from TeaBay's traction and growth.

The price of TEA might grow through the market acceptance of the platform as an e-commerce solution. As TeaBay grows in popularity and more and more merchants join the platform, higher revenues will allow the completion and release of new features that are already in development. This will further increase the appeal of the platform and lead to higher transaction volumes on TeaBay.

Once TEA has been paid as a listing fee, these tokens will be continuously recalculated into the market by selling them on exchanges. TeaToken will receive the listing fees for the following reasons: TeaToken will use these funds for marketing and continuous development. Recirculating TEA tokens at market price helps to raise their value while engaging the user community

The gas cost for TeaBay will ultimately be absorbed by TeaToken. Due to the technical properties of Ethereum, the gas cost will initially be paid by both buyers and sellers. However, to reduce friction for users in the future, gas costs will be paid from TEA revenues. The treatment of gas cost settlement is under development.

All transactions within TeaBay will take place in Ether (ETH) or TeaTokens (TEA), using the personal wallet integrated in the app.

For the listing of items on TeaBay marketplace, TeaTokens (TEA) will be used

TeaToken tokens do not indicate ownership of a company, will not pay dividends, and TEA holders will not earn any interest. The token is an integral part of TeaBay's economy, and its value will reflect the degree of penetration and activity within the platform. The more merchants are listing items for sale TeaBay – and thus are driving customer adoption –, the greater the demand for TEA will be. Effectively, holders of TEA will act as sellers of listing power. As TeaBay's popularity grows and more merchants join the platform, new features will be released, which will further increase the interest among buyers and sellers.

Participants in the upcoming token sale have the opportunity of gaining access to the marketplace at a significantly lower cost by pre-paying for the service in bulk, i.e. by acquiring many tokens in advance. These early token owners will be key figures for the future growth and operation of TeaBay

ICO

ICO GOALS

Our idea is to create a platform of immediate exchange for teas for cryptocurrency which is a liquid asset that can further be used in a speculative trading or be used in the conversion of the income received from selling teas on the platform.

To do so, we need the working capital for executing obligations of sellers, buyers and farmers of tea, as well as the marketing and development capital which will allow operating the project at scale.

We expect our project to be appealing for the members of the crypto-community, who will be able to participate in the market growth with their investments, as well as members of the tea farming community, who will take part in building the new market infrastructure.

ICO PARAMETERS

STAGE 1: PRE-SALE

- 6,000,000 Tea Tokens - 15% of all token supply will be sold during the pre-sale period

- Pre-sale period will last 3 weeks and will have a fundraising goal of $2,000,000

- Funds raised in this stage will help the development of the platform

STAGE 2: INITIAL ICO

- Increase market cap by 32,000,000 TeaTokens

STAGE 3: TOKEN BUYBACK

- ICO funds left over from marketing and developing will be used to buy back some of the TeaTokens sold from the ICO

- Implementation of voting capabilities

- Release of 50% of founders TeaTokens (Total is 40,000,000)

TEA TOKEN DISTRIBUTION

- Total Number Of Tea Tokens: 40,000,000 Non Re-issuable tokens.

- 80% to be sold via Pre-ICO (32,000,000) and ICO as follows:

- 15% will be made available for pre-ICO: 6,000,000 Tea Tokens

- 65% will be available for ICO: 26,000,000 Tea Tokens

- 10% will be used for promotions, bounties and airdrops: 4,000,000 Tea Tokens

- 10% will be reserved by Tea Token.io: 4,000,000 Tea Tokens, 50% (2,000,000) of which will be withheld from founders until stage 3 begins.

ROADMAP AND DEVELOPMENT PLAN

Our main product under this ICO is creating an exchange service to connect farmers and tea enthusiasts and vice versa with a completely decentralized marketplace powered by the Ethereum Blockchain. Farmers accept payments in TeaToken from anywhere in the world without having to worry about exchange rates. We simplify the whole process of trading tea across borders and solve the problem of exchange speed as well as significantly expand the range of available speciality teas.

- In August 2017, we are launching the first decentralized TeaToken cryptocurrency for buying and selling teas.   TeaToken will solve the problem of the diversity of domestic currencies and the lack of real value of coins beyond their limits

- In September 2017, we will start to enlist farmers and TeaToken holders to test the beta version of the platform before full release

- In October 2017, we launch the beta platform for exchanging TeaTokens for teas.

- In December 2017, a technical whitepaper will be released that explains the DAPP in full detail

- The Decentralized Application (DAPP) will be in development and the TeaBay website will be used as a testing ground for when the marketplace goes completely decentralized. The DAPP will be fully released in Q2 of 2018

- Q2 2018, fully decentralized marketplace is released

- After the launch of the marketplace, additional features will be implemented based off the community feedback. Some features which will be implemented are

  - Internal reputation systems

  - Tor integration

  - Pricing in national currencies and the purchase of TeaTokens in fiat currencies

After the marketplace is running efficiently, we are going to focus on the farmers' base enlargement covered by the budget and our competitive advantages. That will boost our market share and raise the demand for TeaToken.

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