

WARRANTY COIN

Whitepaper V1.0

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Abstract

Today, there is a low chance that you have not heard of cryptocurrency and blockchain which many predict to revolutionize the financial industry. The blockchain technology is a safe transaction ledger database shared by all parties which participate in an established, distributed computer networks. Every transaction carried out with blockchain are recorded and stored in the network thus removing the need for a trusted third party like payment processors.

The proponents of blockchain often describe the technology as a “transfer of trust in an unreliable world” meaning that entities who do not know each other can carry out transactions with surety and no intervention from a third-party. This makes the Blockchain crucial to the future of finance and banking; hence where Warranty coin comes to play.

Soon, the financial sector would need to employ the use of blockchain to create better and safer transactions; as a result, warranty coin is designed using blockchain to guarantee this. Our warranty coin and exchange platform aim to create a more convenient and confident alternative to the conventional banking system. Also, we strive to reduce the rate of frauds and identity theft in the financial and banking industry.

Executive Summary

Our warranty Coin (WTY) team is building a next-generation model for financial services which is based on Blockchain technology, warranty coin platform, Exchange, Mining and Hosting Blockchain Conventions . We will use crypto financing (Initial Coin Offering) for growth capital rather than traditional venture capital and shareholders.

WTY is a team of dedicated entrepreneurs, engineers and like-minded people who think they can build something that can benefit everyone. We are beginning to develop a cryptocurrency trading platform and will build on it to create the next generation of warranty and crypto banking services.

WTY anticipates a great interest in these new initiatives and a substantial return on investment by expanding our services onto a decentralized network. Our platform will offer cryptographically secure

operations and will empower our stakeholders to open the possibility an entire economy that can be built around them.

We believe that warranty coin can help reverse the trends and help industries, dealers and customers that have a direct contact for technical support. Our platforms unique selling proposition (USP) in the digital banking market is our use of blockchain technology combined with trading and Exchange.



The Problem

The first issue which WTY expect to tackle is related to warranties. In contract law, a warranty has various meanings but generally means a guarantee or promise which assures one party to the other party that

specific facts or conditions are correct or will happen. This factual guarantee may be enforced regardless of materiality which allows for a legal remedy if that promise is not right or followed.

Although a warranty is in its simplest form an element of a contract, some warranties run with a product so that a manufacturer makes the warranty to a consumer with which the manufacturer has no direct contractual relationship. Most of the consumers are faced with no option and will have to take the item for repairs/exchange to a warranty services provider he may not like / might not be the best choice in his opinion. What if all parties - warranty services providers, vendors and customers of every industry (vehicles, electronics and everything else that has a warranty on the same platform)?

The second problem that WTY is working on is related to crypto banking. Even in this modern age, there are unbanked regions on Earth. Research shows that nearly 2.5 billion people live in areas where no banking infrastructure exist. The only form of payment available in those regions is manually giving banknotes (and/or coins) to counterparty.

What makes it worse, even in banked regions, there are millions of people without passports or any other forms of identity or documentation; thus they are cut off from modern banking facilities. According to a recent World Bank estimate, the total number of people who did not have identification documents amounted to 1.5 billion by 2016. The geographical concentration of the number of account holders is given below.

The Solution

Warranty coin (Company / Platform / WTY) aims to bridge the first gap by having a blockchain platform for warranty services, which all related parties, the vendors, warranty providers and customers register. The client will review the functions of the warranty services provider, and the better he is examined, the more business he will get and hence, the reimbursement from the service provider. The community will use one virtual currency – the warranty coin.

Warranty coin is the future of digital currency, and this is done by availing financial services which are

based on blockchain technology, a mobile app in the future. The proposed warranty coin platform uses crypto financing (Initial Coin Offering) for growth capital rather than traditional venture capital and shareholders.

The proposition is to use a cryptocurrency wallet that will perform the function of a bank account. The revolutionary cryptocurrency will be termed “Warranty coin” and will be the universal virtual currency that will be traded by any individual who will be an account holder. And will bring the unbanked and the semiformal financial services users to the same platform given below.

In simple words, Warranty coin is a digital currency that eliminates banking transactions. The ultimate goals are:

- to integrate 2.5 billion people disconnected from the international business community and empower them to free themselves.
- to shift emerging economies into the crypto-economy.

The platform will include both website and a mobile app compatible with all OS versions (IOs, Android, and windows).

What Makes Warranty Coin Special?

It is natural to ask why Bitcoin or any other cryptocurrency cannot solve the problem of banking for the unbanked. And the questions can also be asked: “What makes Warranty coin special?”, “Are you just another startup offering yet another mobile wallet app?”

Problem: the number of Satoshi’s in circulation (or any other small units of crypto) is insufficient for some regions. E.g., in Indonesia (250 million people), there’s just not enough digital currency to have substantial daily turnover (volume). Bitcoin is scarce, and if you don’t have bitcoins, you are inclined not

so to be interested in the network. For regions poorly integrated into the international financial system, it would take a lot of time for sufficient liquidity to appear in the local market. But there's no doubt that such regions have their domestic economy today. It's just they are almost exclusively cash-based.

Solution: Other cryptocurrencies, Warranty coin provides an egalitarian emission mechanism. The amount of coins that one person can mint is limited, and this is what makes Warranty coin so unique. This mechanism has nothing to do with competing in specialized hardware, having access to specialized hardware, wasting electricity, or owning the coins preliminarily. It may be called proof-of-face, and nothing is fairer than that.

Problem: One of the significant issues faced by the conventional banking system is the inability to deliver convenient and fast services to people. This banking system is often slow especially during international transfers and the fees for these transactions are often exorbitant.

Solution: The Warranty coin and exchange platform seek to create solutions to the loopholes of the conventional banking system. With the use of blockchain, we ensure that large transactions are carried out at high speed to anywhere in the world. Also, the fees charged for the mining of these transactions are considerably lower.

Problem: Even now in 2018, there are lots of countries where no infrastructure to buy or sell cryptocurrency exists. This is the issue even for some European countries, which have no problems with Internet adoption and where virtually the entire population is using smartphones. The platform likes to stress that it has been more than eight years since the first cryptocurrency launched, and more than seven years since the first cryptocurrency exchange ever appeared.

Solution: since the platform provides infrastructure for people to earn Warranty coins from home, the platform understands that people would eventually like to exchange cryptocurrency for local currency. Of course, we provide such infrastructure in our app. (And still, are in talks with some national and international industries/shopping franchises in various countries we are targeting — and engaging them to add Warranty coin as a payment option.)

Problem: some states are concerned with pseudo-anonymity of cryptocurrencies, which causes recurring legal issues associated with them.

Solution: Encryption and secured is good news for transparency, Anti Money Laundering (AML) and Know Your Customer (KYC) advocates, and that makes the platform unviable for financing terrorism, trading drugs, and all the other deadly sins and accusations on Bitcoin. Another point is, Warranty Coin provides the ability to earn while working from countries abroad. This enables an export-driven economy in depressed regions, improves living standards of depressed areas, and reduces the impetus for migration, which is excellent for all governments both in developed and in developing countries.

Problem: The network effect of Bitcoin (and other cryptocurrencies) is relatively small because of relative usage complexity. According to the report from Juniper Research, the number of active Bitcoin users around the world could reach 4.7 million people by the end of 2019. Even now the network has reached the capacity limit of 250 million transactions. Eight years of the Bitcoin era have passed; compared to PayPal, after eight years it had 100 million active accounts.

Solution: The platform looks for the most secured transaction that no one can hack, Warranty coin will develop in the future an encrypted and secured wallet; fractional amounts of coins, since decimal fractions may be uneasy for people with little or no education. It's straightforward. Coins are whole numbers (integers).

Problem: the complexity of reputation accounting in anonymous communities, needed for various p2psolutions (p2p-insurance, p2p-banking).

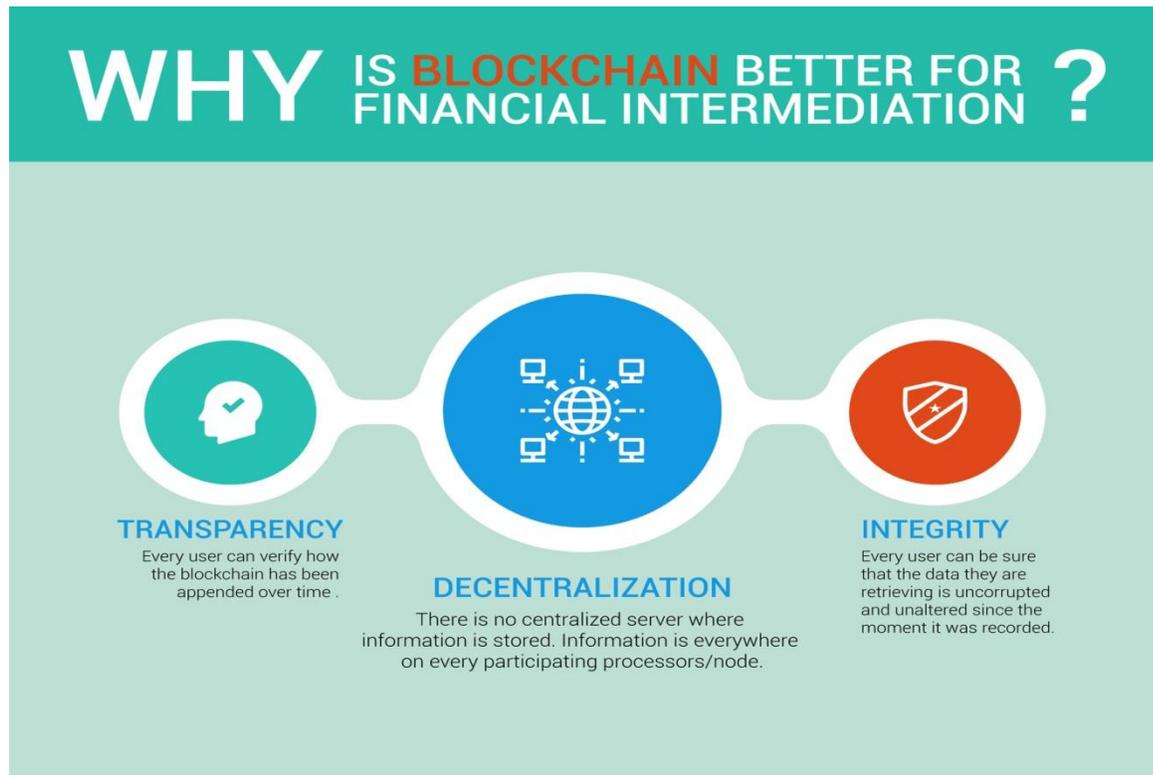
Solution: The platform handles this problem with our encrypted procedure. By the beginning of 2018, elegant solutions already exist. If The platform takes a combination of authentication

Problem: the lack of crypto evangelists in undeveloped regions, which contributes to people's unawareness of innovative payment systems.

Solution: the reasons why people don't promote cryptocurrencies in undeveloped regions are understandable: technical complexity of the subject, language difficulties, no financial incentive, etc. But the company targeted the platform's project directly at such regions or globally. Working on the problem, the platform has studied nearly everything about the current state of developing countries. We talked to 100 prominent bit coiners who live in developing countries such as Sierra Leone, Afghanistan, Botswana, Pakistan and Indonesia. Dozens of them decided to enter our WTY Ambassador Program: they will teach people about how to use the platform and earn cryptocurrency for that through mining/trading.

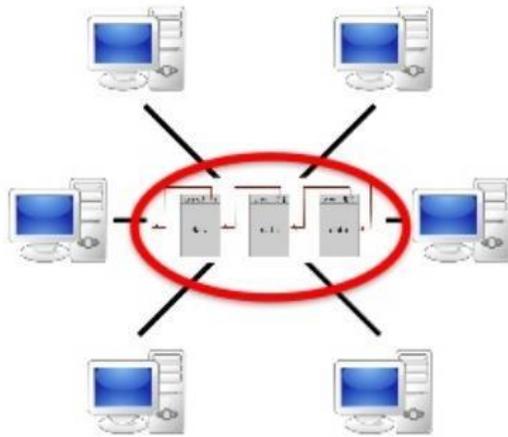
Why is Blockchain Better for Financial Intermediation?

Why would an account/wallet owner trust a single authority to hold and control their data and finances? Usually, trust comes with reputation and reputation comes with a substantial additional transaction cost. Can we look for a trustless alternative which is low cost?

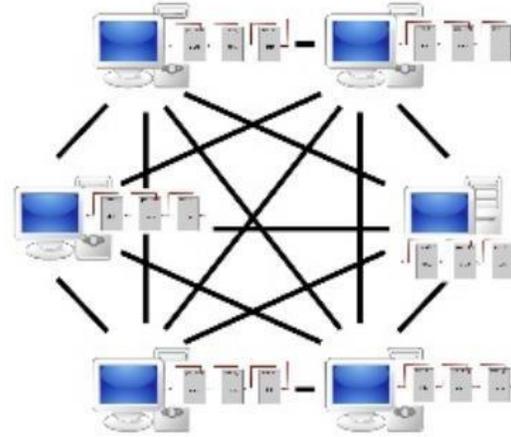


The answers are blockchains DECENTRALISATION. There is no centralized server where information is

stored. Instead, information is everywhere on every participating processors/node. The accuracy of data is decided by the common condenses of these nodes.



Server-based



P2P-network

Source:https://www.google.lk/search?q=blockchain+vs+peer+to+peer&source=Inms&tbm=isch&sa=X&ved=0ahUKEwiZsJaPitDZAhVFXrwKHSv8B3MQ_AUICigB&biw=426&bih=215&dpr=3#imgrc=S0zqhKtnLn8l0M

The decentralized data storage binds security into its very structure of blockchain. What's more, the technology is public verifiability, which is enabled by integrity and transparency.

Integrity: every user can be sure that the data they are retrieving is uncorrupted and unaltered since the moment it was recorded

Transparency: every user can verify how the blockchain has been appended over time.

These features of blockchain are ideal for WTY which a platform will be open to anyone without discrimination what so ever.

Data needs to be free, as in freedom and as in beer. Blockchain provides trust, redundancy, safety and privacy protection for the platform to exist. All the node operators will support infrastructure: the blockchain is free in the open and will open the opportunity for anyone to mine and make a profit, on terms specified by WTY.

WTY feels honored to repeat it once more: Warranty coin provides an egalitarian emission mechanism. The amount of coins that one person can mint is limited, and that is what makes the platform so unique. This mechanism has nothing to do with competing in specialized hardware, having access to specialized

hardware, wasting electricity, or owning the coins preliminarily. It may be called proof-of-face, as we've mentioned, and there's nothing fairer than that.

In this section, we are about to present the details of the emission model we chose. Developing it, we pursued the following objectives:

1. The early adopters should receive more money than the later ones.
2. The total amount of coins that will ever be issued must be five times bigger than the number of coins issued via Pre-ICO + ICO.
3. Emission proceeds until k_{max} people are registered. k_{max} should be relatively big.
4. On average, one user is granted with 500 coins.
5. Tokens are issued by the smart contract upon request.
6. Emission per one person is carried out not by one-time payment², but under a scoring function which depends on the person's activity: referral/inviting friends, making transactions.

Let $E(k)$ be the amount of WTY coins that may be granted to the person who was k -th to pass the authentication in the Warranty coin app (the user number k). The objective number 1 tells that the function $E(k)$ should be decreasing one. We chose the simplest decreasing function— the linear one:

$$E(k) = E_{max} \frac{E_{max} - E_{min}}{k_{max}} \cdot k$$

Thus, at $k = 0$ $E(k) = E_{max}$, and at $k = k_{max}$ the correspondence $E(k) = E_{min}$ holds. We choose E_{max} equal to 860, and E_{min} equal to 140. Finally for

When the platform expands s so will the profitability of minting WTY's. Individuals will look for methods to make more WTYs hence mining. This is when the platform will look to get truly decentralized and the reward for miners who provide infrastructure will be WTY's which will be highly sorted after. The platform will start to get "TRULY GLOBAL".

the maximum possible amount for the k -th video registrant

$$E(k) = \text{round } 860 \frac{860 - 140}{k_{max}} \cdot k \quad (4.1)$$

Let us draw a graph showing the controlled supply of coins:

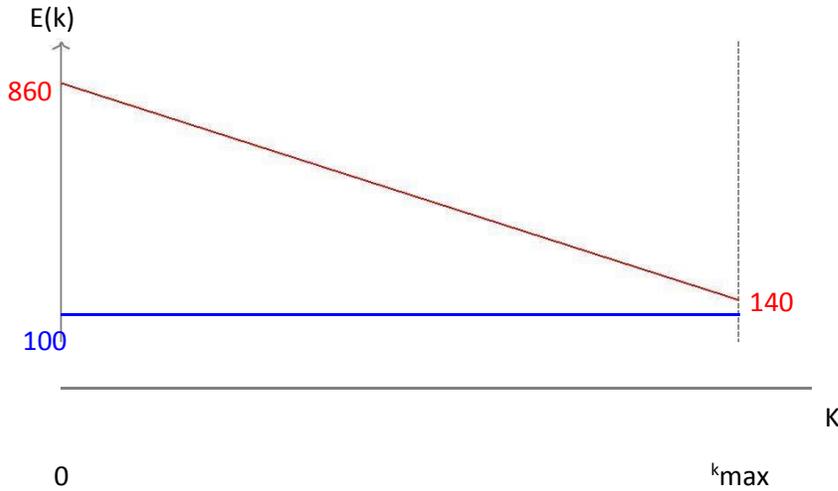


Figure 3: The distribution of Warranty coins. Red line represents the maximum possible amount of coins a user can be granted with respect to the scoring function. The blue line represents the number of coins that the user is granted if his or her only action is passing authentication.

Denote the total amount of coins sold via Pre-ICO + ICO by V_{ico} . According to the objective number 2, only $4V_{ico}$ coins will be earned by users of the Warranty coin app. Thus, the maximum possible amount of Warranty coin coins is limited by $5V_{ico}$.

The objective number 4 states that the total average number of coins that a user can mint in-app must be close to 500, thus giving

$$\begin{aligned}
 & \int_0^{k_{max}} E(k) \cdot \frac{1}{k_{max}} \cdot \frac{1}{k_{max}} dk = \int_0^{k_{ma}} \frac{1}{k} E(k) dk = \frac{1}{k_{ma}} (4V_{ico}); \\
 & k_{max} = \text{round } 125 \qquad \qquad \qquad (4.2)
 \end{aligned}$$

This provides the restriction upon the total amount of people who can mint the tokens in-app. We use the conventional rounding function to guarantee that k_{max} is an integer. The scoring function mentioned in objective number 5 describes how people can earn their $E(k)$ coins in the Warranty coin app. It is structured as follows:

(denoting the WTY/USD exchange rate by r , so that $15r$ becomes the Warranty coin equivalent of \$15)

- mobile app installation — $\min(\text{round}(0.01 \cdot c_1 \cdot E(k)); 15r)$ WTY
- receiving first coins from a friend — $\min(\text{round}(0.04 \cdot c_2 \cdot E(k)); 15r)$ WTY (one-time payment)
- passing the encryption — $\min(\text{round}(0.15 \cdot c_3 \cdot E(k)); 15r)$ WTY (one-time payment)
- a referred friend — $\min(\text{round}(0.1 \cdot c_4 \cdot E(k)); 15r)$ WTY (for every 5 first friends invited)
- execution of a transaction within first month after installation — $\min(\text{round}(0.05 \cdot c_5 \cdot E(k)); 15r)$ WTY (one-time payment)
- execution of a transaction within second month after installation — $\min(\text{round}(0.1 \cdot c_6 \cdot E(k)); 15r)$ WTY (one-time payment)
- execution of a transaction within the third month — $\min(\text{round}(0.15 \cdot c_7 \cdot E(k)); 15r)$ WTY (one-time payment)
- additional earning opportunities are provided by local and global startups and senior companies

For moments when exchange rate WTY/USD decreases, the emission can be delayed. The exchange rate is treated diminished if current rate $<$ average rate for the last week.

By the start, every coefficient in the tuple $(c_1, c_2, c_3, c_4, c_5, c_6, c_7)$ is set to 1, but after some time these coefficients are going to become mutable. For the first period of their mutability, the control over these coefficients will be community-driven, but eventually, this control will be forwarded to a neural network, whose goal will be to maximize several reasonable metrics (the installations' rate of growth, transactions' number rate of growth).

Thus, the amount of WTY that can be granted to a user is $E(k)$, where k is the number of users who passed the identification before him or her. The formula can be used to calculate the potential benefit.

This doesn't limit the earning opportunities. Start-ups and senior companies pay additional amounts of WTY to people executing their tasks. The list of functions available in your region can be found in the tab «Offers». Our ultimate dream is that everyone could purchase the smartphone, install the Warranty coin app and then cover his or her expenses on the same day, executing simple actions. That is why we tether our emission to the Warranty coin equivalent of \$15.

ICO Terms

We believe for those who want to support this platform it is fair to allow everyone to invest in the project. To make the procedure egalitarian, we have chosen to utilize crypto financing via an initial coin offering (ICO) rather than take on venture capital. Moreover, a crowd sale is our crowd sale has two stages — the Pre-ICO and the ICO. The Pre-ICO

Since all Warranty coin balances are whole numbers (integers) and fractional amounts of coins are not possible (see subsection «Coins are integer» for the reasoning), we had to come with the solution for the arising subtlety. We chose different ways to handle the problem of fractional WTY for Bitcoin-using and Ethereum-using participants.

For Bitcoin participants, if the amount of WTY to be bought is less than 112,358 WTY, rounding down is performed; otherwise, if a buyer wishes to buy more than 112,358 WTY, the amount of WTY to be bought is rounded up.

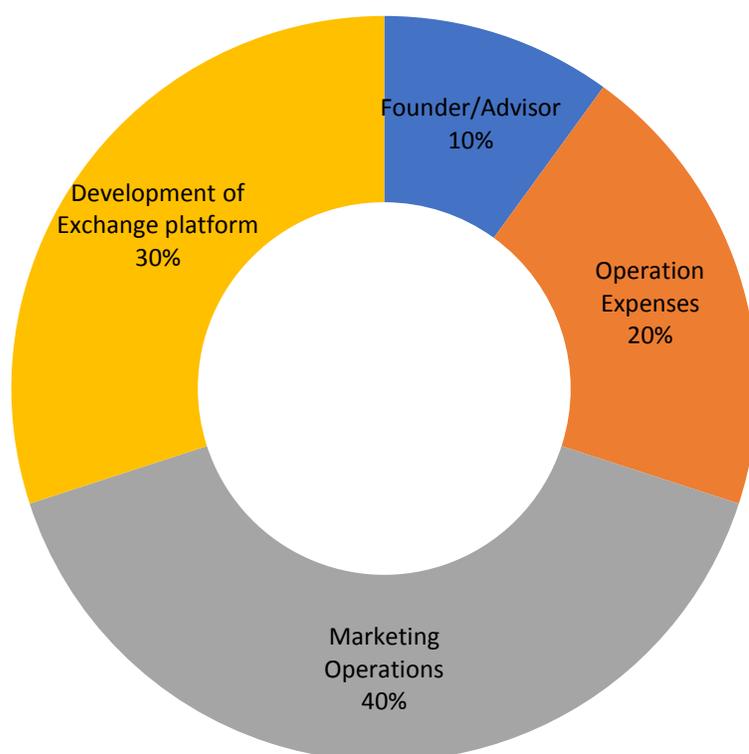
For Ethereum participants, we decided to conduct bounce-back transactions (and hardcode them in the smart contract). E.g., if you transfer 3.1415926 ETH and no bonuses are applied, you are about to receive 3141.5926 WTY, but since WTY balances are the integer, the amount of ether equal to 0.5926 WTY is sent back.

WTY has set the following rates for the Pre-ICO stage:

- 1 ETH buys 1500 WTY (+ bonuses)
- for BTC-buyers: for the whole Pre-ICO campaign
- we treated your bitcoin as 93.5 ETH

Funds raised in the ICO are to be utilized in the following manner

Use of Funds



Product Roadmap

WTY will have a coordinated go to market strategy. The product roadmap is given below.

| Timeframe | Milestone |
|------------|-------------------------------------|
| 2018 March | Warranty Coin Whitepaper is written |
| 2018 March | The launch of warranty coin website |

| | |
|---------------|---|
| 2018 June | Pre ICO |
| 2018 November | Crowdsale concludes |
| 2018 December | Platform warranty services platform development |
| 2019 January | Product launch: the mobile app (wallet with bioID) + trading app. |
| 2019 February | global expansion in two directions: to underdeveloped regions (expansion of the network of users in Africa, Asia, South America) and to the cities that are crucial to modern business (London, Singapore, Hong Kong and San Francisco) |
| 2019 April | Start of the mining venture involving global players and decentralization |

Technical Details From the technical point of view, to implement the idea, the following ingredients are required

- The mobile app, which is what users see. We're talking about Android app since in underdeveloped regions market share of Android OS is close to 95%. Making an iOS App is less important in our case, but for the sake of perfection, we actively develop it.
- Appropriate authentication software
- Such software essentially produces a «chunk» of every person's identity; these chunks are used for identification/authentication and must be stored somewhere in a decentralized manner
- These chunks must be encrypted 5) identification procedure must cost zero for end users (at least for the first time)
- Authentication procedure require cost zero for end users (at least for the first time)
- Secure consensus algorithm (e.g., robust blockchain)
- , Transactions should cost zero for senders if possible.

To satisfy the first and second conditions, it is enough to build the apps and to buy licensing rights for the best available security. Is devoted entirely to how we made our choice of the solution.

To satisfy the third condition, we should allow every PC to become a WPC node. On encryption (fourth condition), our approach is similar to Storj and (announced by Ethereum) Swarm's one. To meet the fifth condition, it is enough to specify in the protocol that nodes must add «chunks» of a new person to their database, keep their databases synchronized, and are not paid for that. It's exactly like in Bitcoin: full nodes kept on their hard drives containing the ledger of all transactions that have ever happened without any financial incentive.

The sixth condition resolves like the previous one: people verify and broadcast identities of authenticating users for free. Again, exactly like in Bitcoin: peers verify and transmit new blocks and transactions, and nobody gets paid for that.

Speaking on condition eight, for the first few months of the network's existence transaction fees will be zero for end users. However, this is to be changed in future, since the founders cannot pay Ethereum fees forever. We are about to decentralize the project architecture and to make it nondependent on founders, giving everyone the possibility to run a WTY node.

We are using Ethereum for the project and the ICO campaign because this platform allows us to create a secure solution quickly, with few resources, and without loss of quality thanks to smart contracts (we plan to conduct the audit of our smart contracts); reliability of a ready and operating blockchain, in contrast to the risks associated with deploying own blockchain; future development of the Ethereum project and stated opportunities.

Challenges

Warranty coin is based on blockchain technology. Major component — transaction settlement will be done on Ethereum blockchain using Standard Token (ERC20) contract. New tokens are emitted for every authenticated user and the rules of emission are controlled by «Emission smart contract». WTY servers are responsible for authorization of users on the blockchain via authentication services as well as approving additional token emission. Users will only interact with Mobile Wallet for their smartphones/computer.

Scrupulous readers may say that this system has several centralized places carrying risks. But there are answers to this:

- Each user can use the Ethereum client wallet without using additional services.
- It should be admitted that an overwhelming majority of Bitcoin users uses Bitcoin protocol add-on services, and this is the normal operation of a payment system, and our process will be based on the same principles. And since security issues are undertaken by Ethereum, this allows us to focus on the client-oriented decentralized business model.
- Concerning authentication and mobile wallet, we will move towards open source and hereafter decentralization.
- Besides those mentioned above, the service development strategy is a decentralized business model, i.e. stimulating creation of several mobile wallets by third-party teams, chatbots, exchange services, service rendering.

There are three critical components of warranty coin:

- the app (which is mostly also the mobile wallet)
- Warranty coin servers
- contracts on Ethereum blockchain.

Mobile Wallet

The Mobile Wallet is an interface for mobile (iOS, Android) users that provides them with quick access to their balances and lets them transact with other users/merchants. The Mobile Wallet manages private and public keys for the user, which are used to sign transactions locally.

The Mobile Wallet also includes an API for third-party developers so that they can interact with the Wallet:

access balances, send transactions.



Contracts on Ethereum blockchain

Two contracts are already deployed on the blockchain. First one is Standard Token Contract (ERC20) that keeps track of user balances and allows them to transfer tokens between each other. The second one is responsible for token emission. However, we understand that with the decentralization proceedings we will be involved in the development of an ample web of contracts.

Sending a transaction with Mobile Wallet

The operation is generated by the smartphone and then signed using a local private key. Signed transaction data is submitted to warranty coin servers. A transaction is relayed to the Ethereum blockchain to the warranty coin Token Smart Contract.

Sending transactions without Mobile Wallet

If the user already has WTY tokens they might transact directly using Token smart contract bypassing warranty coin servers. After signing the transaction, user might send it directly to Ethereum blockchain. This brings an advantage of control over the transaction publication and propagation (because there might be a delay due to a high load on the warranty coin servers).

Coins are integer

Any WTY balance cannot be fractional. It can only be the integer. We're targeted at providing undereducated people with modern finance, and we don't expect all our users to be great at fraction calculus. The integer amount of coins makes it easier for undereducated people to count their money.



Conclusions

The project is launched to create a reliable warranty coin platform and most importantly, financial infrastructure for people who were previously isolated from it. We are using the most advanced and mass technologies: the blockchain with the possibility to connect third-party projects, a mobile application, along with secured/encrypted. WTY will also add to the science of crypto economics that will benefit worldwide.



For crypto-economy:

Expanding the number of crypto-economy users will result in a positive development in this industry. Friendly and open source architecture of WTY will help start-ups to get instant access to customers around the world and obtain financial support from the project.

Opportunities

Promote work and economic growth: greater opportunities for savings will increase the lending capacity of the population; the collection of customer financial data will reduce lending risks innovation and infrastructure. Electronic finances will allow the creation of new business models and products reduction in class inequality: financial services can provide new opportunities for billions of people living on less than \$2.50 a day and bring them to the middle class, significantly improving their lives.

Establishing gender equality

Engaging the female population in the electronic finance system will raise incomes of health care and education systems; a barrier for women in financial account registration will dissolve, and women will have more control over their funds and business.

Warranty coin is not welfare or charity, and the platform is more about empowering people to change their lives and pull themselves out of economic disparity by participating in a new digital economy that they can help build.

