BETTERCOIN Ecosystem

"Wallet-to-Wallet smart cryptocurrency multi-token structures for Virtual Arbitrage between BTC & ETH and other services Ecosystem"
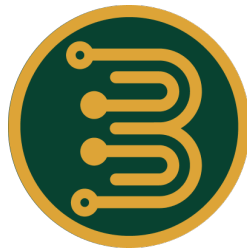
Tokens:

BETTER

UNPAID

ETH_PAY

ETH_PRICE

BETTERCASH

Bettercoin Whitepaper – non technical version 0x102upd

Dec 26th, 2022 / Apr 30th, 2023

Abstract. "*Bettercoin is a novel cryptocurrency ecosystem designed to address the risk and web2 access limitations of crypto-asset exchanges, whose cybersecurity vulnerabilities have slowed the widespread adoption of cryptocurrencies, by designing an advanced programmability based on **transactional intelligence algorithms**. The objective is to introduce a cutting-edge cryptocurrency with innovative features, including automatic virtual arbitrage, secure "**double transactions**", delegation, asset recoupment on pending transactions, partial payments, and others. By relying on its inherent capabilities, Bettercoin seeks to **transfer trust from institutions to the currency itself**, offering users a secure, dependable, and efficient means to transact and exchange cryptocurrency without the need for intermediaries affecting price. This groundbreaking approach has the potential to transform the landscape of digital currencies and promote widespread adoption.*"

List of Contents

1 The BETTERCOIN Ecosystem

When two parties want to make a direct transaction with cryptocurrencies, they can do so directly between their wallets through peer-to-peer (P2P) transactions, which is the original cash like purpose of digital assets. However, when dealing with unknown parties, intermediaries such as cryptocurrency exchanges and marketplaces are often used to facilitate trade. These exchanges, also known as centralized exchanges (CEX) or decentralized exchanges (DEX), provide a platform for buyers and sellers to come together and trade in a reportedly safe and secure environment. CEXs, which are operated by a centralized entity, usually provide a higher level of security and customer support, but also have control over users' funds and transactions. DEXs, which operate on a decentralized network, are typically faster and more private, but can also be less user-friendly and less secure. Both types of exchanges offer settlement and reconciliation services in attempts to ensure that transactions are completed and that the funds are transferred as agreed, but through their business structure, both organizational (or lack thereof) and technological (most of the service does not happen on the blockchain, but on web2) also come with certain risks along with increased costs through fees.

Overall, it is important for users to carefully consider the risks and benefits of using CEXs or DEXs before trading cryptocurrencies and to choose exchanges that have a good reputation and track record for security and reliability. Additionally, it is always advisable to use best practices like two-factor authentication, not leaving large amounts of funds on exchanges, and keeping track of their account activity and transactions.

1.1 Description of the problem the cryptocurrency is trying to solve.

Some Centralized exchanges (CEXs) face several risks, including hacking or security breaches, as they hold a significant number of users' funds and personal information. In the event of a breach, users' funds and data may be compromised. Additionally, CEXs are vulnerable to regulatory changes and government intervention, potentially resulting in closure or seizure.

Decentralized exchanges (DEXs) present their own risks, such as a lack of security features and customer support, which could lead to lost funds or other issues if a trade goes awry. DEXs may also experience liquidity issues and order book manipulation, making it challenging for users to execute trades at fair prices. Furthermore, DEXs are susceptible to smart contract bugs and technical issues that can cause losses.

Both CEXs and DEXs are limited by fees and a lack of transactional intelligence, which hinders widespread cryptocurrency adoption as they struggle to meet the demands of an expanding market or adhere to financial market transaction standards and requirements. The approve/allowance[1] functions within smart contracts, used by DEXs or CEXs to access user funds for transaction settlement, grant intermediaries' broad access to user funds as spenders.

In all, while cryptocurrencies were designed for secure P2P transactions through the blockchain, the introduction of intermediaries to facilitate trade between unknown parties has brought its own set of risks.

---

[1] allows a spender (intermediary) to withdraw or return a set number of tokens from a specified account.

1.2   BETTER – The First Smartcoin

Smartcoins represent a new generation of cryptocurrencies designed to transfer trust from institutions to the currency itself, relying on their inherent capabilities to ensure effective transactions for both parties involved.

By implementing advanced security features, Smartcoins address the crypto industry's cybersecurity vulnerabilities, helping prevent hacking and other security breaches while allowing users to easily verify transaction authenticity. Built on decentralized and distributed blockchain technology, Smartcoins ensure transactions are transparent and tamper-proof, making it difficult for malicious actors to manipulate or corrupt the system.

Smartcoins can also resist or condition transactions, providing an added layer of protection in the case of irregularities. This feature helps safeguard users' asset value and ownership throughout the transaction process. Smartcoins can act as a internal intermediaries that ensure smooth transactions while keeping both parties satisfied and protected.

BETER, a new cryptocurrency, offers innovative features such as automatic virtual arbitrage between Bitcoin and Ether, traded in ETH through CWr Extend. It also has the capacity to delegate transactions while maintaining awareness of who is always the owner-delegate-buyer and the ability to recover assets from pending transactions.

The total supply of Bettercoin, or BETTERs, is 952 billion. From this total supply, 2 billion BETTERs have been allocated for an adoption program and are being put in circulation. The remaining 950 billion BETTERs can be obtained by users through a process called mining transactions.

1.3   BETTER – Tokens

1.3.1   Bettercoin [BETTER]

Better is the cryptocurrency that encompasses all the characteristics outlined in this whitepaper.

Initiate a transaction by transferring BETTER tokens. To cancel an ongoing transaction and instantly recover all BETTER tokens, send 0 BETTERs to the designated wallet.

SM: 0x291356fDd7AF4Cd08fa30E7B381029A5076C0232

1.3.2   Unpaid

Information Token, Unpaid displays the total number of BETTER tokens sent to a wallet but not yet settled. It is used to indicate pending transactions and is automatically minted and burned.

The Unpaid token functions as a marker for pending transactions within a wallet. For instance, if a wallet contains 100 BETTERs and 100 Unpaid tokens, the holder cannot transfer any BETTERs, as ownership has not yet been transferred. In summary, Unpaid represents a pending transaction.

SM: 0x7A0a94997aC65606C4d6f1516bBbf37b75473C7c (Forked to include Offset)

SM: 0xEAC832D00Ffe84e1F9b5B18f47eDd2CEb9B8091C

1.3.3   ETH_PAY

Information Token, PAY will always show the price in ETH for the total Unpaid BETTERs in a wallet.

This token acts as the price in ETH for a payment order in pending transactions within a wallet.

SM: 0x76Cd931608a9a373D677C6FA4Be2DD8d428CDA1e

1.3.4   ETH_PRICE

Information Token, PRICE consistently displays the price in ETH for 1BETTER tokens within a wallet.

SM: 0x4c1109e95b479A9E4bACB948635aDB74a01691c1

1.3.5   BETTERCASH

BetterCash is the single transaction format for BETTER.

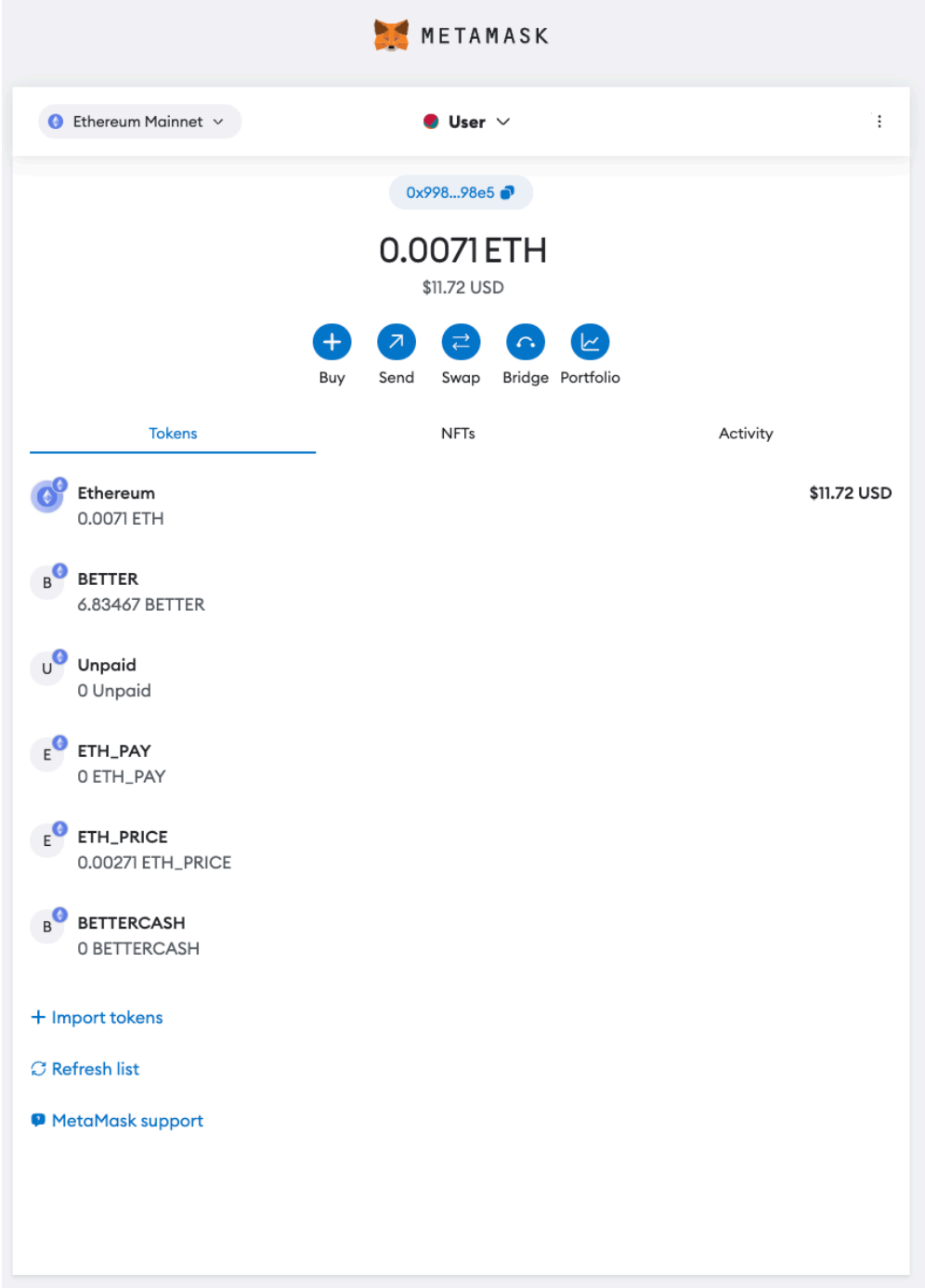**SM: 0xa4C2f87c97651010Aa77F13Bb917563b8392B7D8**

Figure 1: Metamask snapshot of the BETTERCOIN ecosystem

1.4 BETTER – Transaction Types

Bettercoin's primary goal is to shift the trust that the market has placed in intermediaries to itself. To achieve this, the standard BETTER transaction is designed as a Double Transaction. The elimination of intermediaries such as exchanges from transactions necessitated the creation of on-demand intermediation, or the Delegated Transaction. Lastly, the need for users to be able to send their cryptocurrencies to anyone at any time led to the development of the Cash function.

1.4.1 Double Transaction

Double transaction technology manages to ensure that the ownership of a cryptocurrency is delivered to the receiver once the receiver has confirmed the corresponding payment and not before, providing certainty to the sender while avoiding transaction errors to unknown wallets and increasing security for wallet theft.
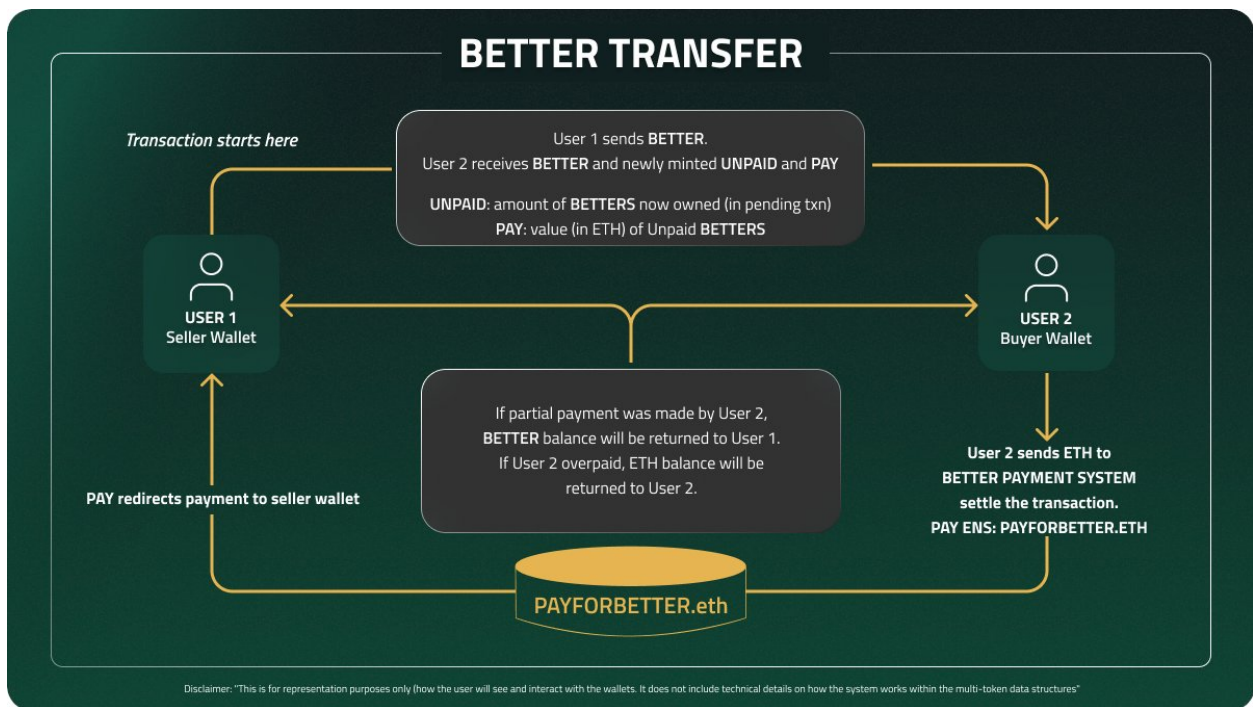

Figure 2: Better transfer diagram

The sender sends a token to the receiver and wants to ensure that the receiver pays or responds in the way the sender expects. Bettercoin accomplishes this efficiently, quickly, cheaply, and securely without the need for intermediaries. So, the sender sends a token and notifies the receiver in a payment order form, the receiver accepts it, proceeds to pay using his private key and finally the PAYFORBETTER smart contract makes the exchange, settling the transaction. In case of partial payment, the automatic consolidation algorithm is activated.

1.4.2 Delegated Transaction

Along with CWr Extends' double transaction, Bettercoin holders can authorize a delegate to promote and sell a specific number of BETTERs on their behalf. In every delegated transaction, the payment is fulfilled directly to the owner's wallet while a commission is paid to the delegate in ETHs and BETTERs, automatically after the double transaction is completed. The owner or delegate has the option to cancel the transaction after 10 minutes of initiated, as Delegated transfers also use CWr Extend.
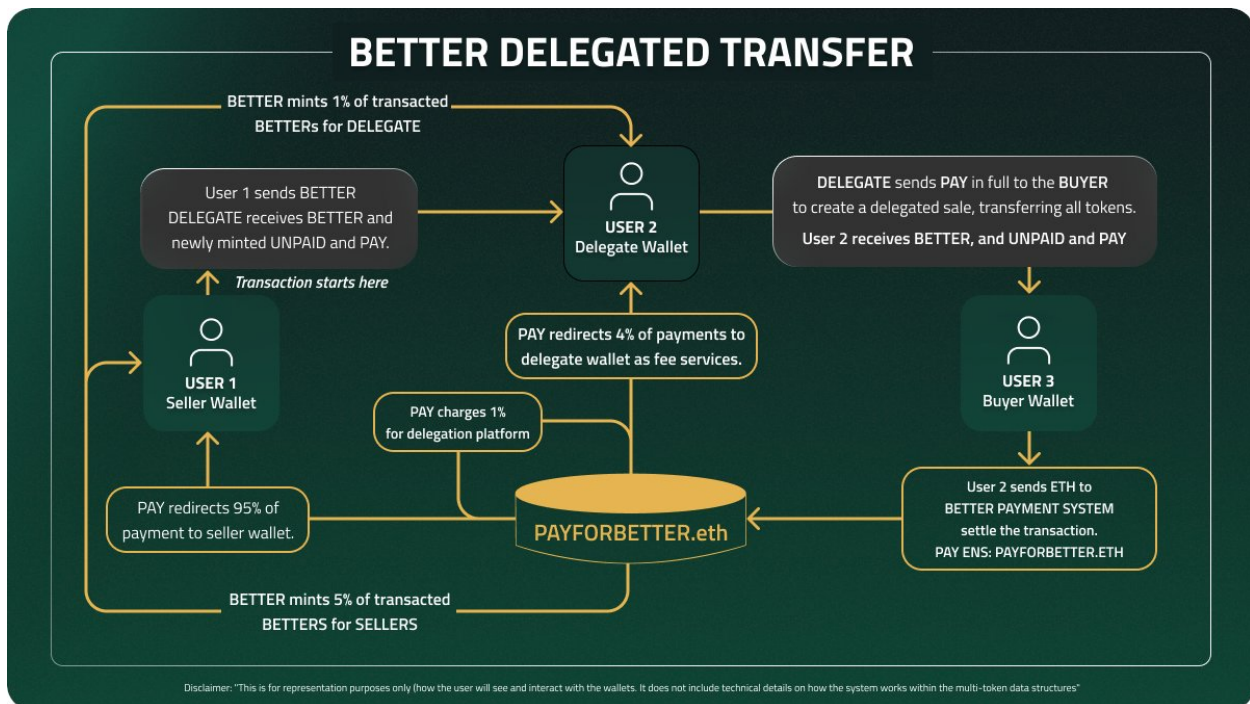

Figure 3:Delegated transfer diagram

1.4.3 BCash Transaction

This feature enables the conversion between double and single transactions. It is a specific application of CWR Wrapping, which has numerous uses in various aspects of cryptocurrency transactions, such as enhancing token capabilities by wrapping one token within another or conducting multiple transactions simultaneously, among others. In this case, BETTER emulates the standard transfer process for digital assets from any wallet, with an additional step to remove the secure double transaction. The result is that the receiver always obtains BETTER in a P2P transaction, just as if someone sent them any cryptocurrency

from their wallets (either for free or as payment for a service, contracts, or other purposes, including signed documents like tokenized contracts paid in crypto).
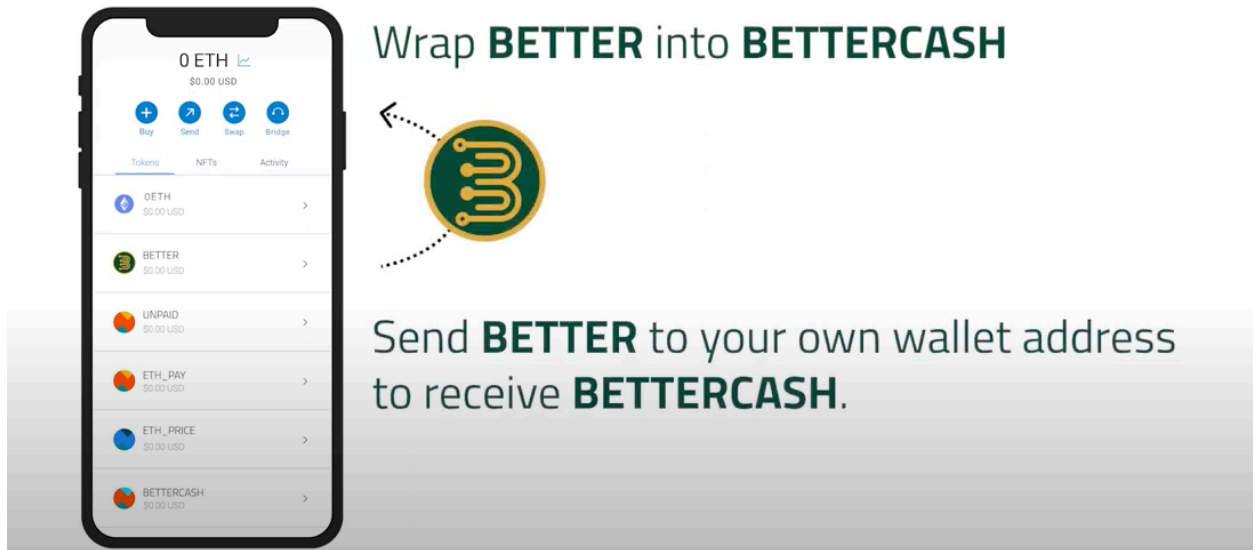

Figure 4: Cash transfer diagram

1.5   Automatic virtual arbitrage

Bettercoin's value is determined by the fluctuations of Bitcoin and Ether, utilizing Dual Wrapped technology. This means its value is influenced by the volatility of these two cryptocurrencies, their trading volume, and transaction trends, without being negatively affected by high volume transactions, whales, or aggressive trading strategies.

Although the BETTER price moves in tandem with Bitcoin's and Ether's price volatility, it is crucial to understand that Dual Wrapped technology cannot always guarantee the perfect balance between both cryptocurrencies' volatilities. Even in the most favorable situations, considering the widely used 200-day and 20-day moving averages, Bettercoin is still subject to market shifts influenced by factors like volume and transaction trends, which cause variations in the bid-ask spread basis. Nevertheless, Bettercoin's efficiency in maintaining the dual range contributes to establishing stable support points to follow the trend rising the most or falling the least.

1.6   BETTER + CWr Extend

Bettercoin transactions are exclusively conducted through a secure transfer function codenamed CWr Extend, a multi-signature transaction process that requires both the seller and the buyer to digitally sign

in order to execute the transaction. The seller signs when transferring the tokens, and the buyer signs when agreeing to pay for the transaction.

CWr Extend ensures continuous ownership during transactions and payments, avoiding vulnerabilities associated with exchanges (such as Web2 cybersecurity and liquidity issues). This is achieved through multi-Token credit databases where CWr does not act as a spender for user accounts but facilitates a system where users transact directly at a P2P level through smart contracts rather than an exchange. This adds conditional transactional intelligence that retains asset ownership until fully transacted. Users can send their Smartcoins and wait for payment or cancel the transaction at any time without intermediaries, as this service is integrated with the asset itself.

When a seller transfers BETTERs to a buyer, they initiate the transaction by sending BETTERs to the buyer's wallet. The buyer then has up to 10 minutes to complete the transaction by paying an equivalent value of ETH at the current exchange rate. If the payment is not received within this timeframe, the seller can cancel the transaction and recover their BETTERs. The seller may choose to wait longer before canceling, allowing the buyer more time to complete the payment.

Moreover, Bettercoin supports partial payment transactions, enabling the buyer to pay for only a portion of the offered BETTERs. In this situation, the remaining BETTERs are automatically consolidated and returned to the seller. This feature allows both parties to transact under fair conditions, with the seller able to recover any untraded BETTERs.

1.7   What's Next?

BETTERCOIN is a Smartcoin that essentially can offer services through its first 3 types of transfers. More types of transfers for different use cases are being developed as you read this whitepaper. Our team will keep you posted.

2 Coinware

At Coinware, our mission is to provide innovative and tailored solutions to help our clients enhance their businesses and remain competitive in the fast-paced market. Our expertise lies in Web3 and blockchain technologies, with our team possessing in-depth knowledge in designing and developing sophisticated cryptocurrency algorithms. These cover various aspects such as identity management, advanced functionalities, access control, asset tokenization and future "Web3 only" features being developed.

We are dedicated to empowering startups by offering assistance in tokenomic analitics, technical design and minting processes, along with specialized consultancy services for the development of complex Web3 projects.

2.1 Programable Money

Programmable money encompasses the idea of utilizing digital technology to embed specific conditions or rules within financial transactions and agreements. This enables the automation of various financial processes without relying on intermediaries, such as banks or lawyers.

The aim of programmable money is to increase efficiency, security, and transparency in financial transactions. For instance, a programmable currency could automatically transfer funds between parties based on predefined conditions, like successful task completion or a set period. This automation could greatly streamline value exchange and diminish the need for intermediaries, resulting in faster, more cost-effective transactions.

Blockchain technology makes programmable money possible by providing a decentralized and secure method to record and verify transactions. This technology allows for the encoding of conditions within digital tokens and the automation of their execution, giving rise to a new form of digital currency designed to perform specific tasks.

2.2 Smartcoins

On May 15, 2022, Coinware's developers team finished the design for a first version of Smartcoin and wrote the preliminary version of this whitepaper which was presented to the Massachusetts Institute of Technology, outlining a novel cryptocurrency designed to bridge the gap between existing DeFi applications and Programmable Money using multi-token algorithmic structures.

Like conventional cryptocurrencies, such as Bitcoin and Ether, Smartcoins are decentralized, secure, anonymous, and globally accessible. However, they offer a unique advantage by having enhanced analytical capabilities that allow them to adapt to specific use cases in each transaction. This versatility enables Smartcoins to enforce compliance conditions between parties, facilitating counterparty binding and transactional intelligence.

These attributes lead to increased programmability and transparency in transactions between unfamiliar parties, ultimately reducing verification costs and bolstering cybersecurity. By shifting more functionalities from Web2 back-end databases and front-end services to secure smart contracts, Smartcoins create a new generation of cryptocurrencies that deliver secure and sophisticated services for their users.

2.2.1 CWr Extend: Double Transactions

Our technology utilizes conditional settlement algorithms to ensure that assets are transferred to the recipient only after they have confirmed the payment, providing peace of mind for the sender, and preventing errors in transactions with unknown wallets.

We offer a Smartcoin solution for transferring tokens to a recipient, which can represent a digital asset, or a service provided by the sender. Our Smartcoin allows the sender to confirm that the receiver pays or responds as intended, such as making a payment for a tokenized asset. This process is efficient, quick, cost-effective, secure, and maintains confidentiality.

The sender initiates the transfer by sending a token, and CWr-PAY forwards a payment order form to the receiver. Upon acceptance, the receiver makes a payment directly to a smart contract, and CWr-PAY facilitates the exchange by transferring the tokens to each party and settling the transaction. In the case of partial payments, the Smartcoin features an automatic consolidation algorithm that settles the transaction proportionally to the paid amount.

2.3 Vision: We are thinking towards 2030

Coinware aspires to lead the fusion of blockchain technology with global markets, enabling businesses of all sizes to conduct transactions worldwide easily, securely, and cost-effectively. Our next generation cryptocurrencies, or Smartcoins, mark the beginning of this endeavor. We are committed to advancing Web3 technologies that enhance corporate governance, industrial IoT processes, and retail operations, ultimately transforming the way businesses interact with their customers and employees.

By promoting growth and ensuring global accessibility to products and services, we aim to stimulate economic activity within a new equilibrium, where banks and regulators play a crucial role in maintaining industry stability. Our objective is to equip businesses with the tools to fully leverage blockchain technology and foster innovation in the digital economy.

2.4 Values

At Coinware, our success and client satisfaction are built upon our core values: Excellence, Meritocracy, Courage, Humility, Humanity, Curiosity, and Passion. We are dedicated to delivering top-notch products and services that surpass your expectations by pursuing excellence in all our efforts. Our merit-based approach ensures that the most qualified individuals are assigned to the right roles, with equal opportunities for success.

We boldly embrace calculated risks and innovative ideas to benefit your business. Our humility allows us to accept feedback, acknowledge mistakes, and learn from them to enhance our services. We prioritize the well-being of everyone involved, both within our team and among external stakeholders. Our curiosity fuels our continuous learning and exploration of novel ways to improve our offerings. Our passion drives our commitment to helping you achieve your business goals.

By staying true to these values, we are confident in our ability to deliver a satisfying and prosperous experience for our clients.

3 Transactional Intelligence

Our team has developed a concept called Transactional Intelligence. In a non technical explanation it is the following: "The application of transactional intelligence to cryptocurrencies allows for the opening and control of transactions, decision-making regarding transfer actions, and the use of an internal security protocol across numerous service Smartcoin containers based on blockchain immutability and block in-chain interconnection mechanism".

This provides users with:

- Granting users control over their property.
- The economic power asymmetry is reduced by automated price parity execution.
- Protection against non-compliance by a party through the use of double transaction containers. The users are liberated from its constraints in the event of default, recovering their digital assets automatically.
- Automated intermediary schemes for mass collaboration trading.
- Secure use of funds for cash payment.
- Wallet to wallet DEX capability is an introduction to multiple services offering.
- InternalStableCoin production disconnected from external trading.
- Wallet mining for adoption vision focused on transactions execution.
- Smart tokenization of assets
- New financial approach based on digital warranties
- New Startup investing mechanism for additional warrant offers for investor.
- This novel concept allows to expand the utility of cryptocurrencies over secure and transparent uses for unlimited application in the future.

Transactional Intelligence: In a short explanation it refers to the ability to use data and analytics to gain insights into the behavior during a Web3 transaction and eventually take control of compliance parameters, through the connection of non-continuous blocks on a blockchain.

It is a high-performance, automated Web3 technology for a new generation of programmable money designed to counteract defaults between unknown users, providing security and transparency..

To achieve all of this, the concept of Transactional Intelligence in detail is to actively intervene in a transaction through impartially designed code that connects past and future transactions in the blockchain. This process grants rights and obligations to both parties over a digital asset created under inflation-resistant rules, with its price being determined by external demand, thus remaining unaffected by either party's influence. Ultimately, the underlying value is conferred by the parties when tokenizing the initial agreement to exchange. This tokenization materializes the agreement by defining an initial parity and its evolution between two or more tokens on the same blockchain network, which each party will create. These tokens will serve as the legal embodiment of the material and immaterial assets involved in the transaction. As part of this tokenization, aspects such as pricing parities, guarantees, insurance, interests, settlement, and other financial elements of the transaction will be included.

A transaction involves the exchange of value between two parties, where A has something of interest to B, and B has something of interest to A. However, inherent conflicts of interest often arise, hindering the establishment of natural partition and leading to negotiation challenges. The Harvard negotiation approach model addresses this by considering key points for achieving the best win-win results possible.

The CWR Transactional Intelligence development adheres to the following minimum requirements in a transaction:

- Both parties must be willing to compromise and build a long-term relationship.
- Each party objectively evaluates the other's value and determines a fair market value as a negotiation target.
- Negotiations are separate from negotiators, with a focus on being firm with the problem but gentle with the people involved.
- Both parties creatively work to expand the benefits, so A receives A+ and B receives B+.

A complex transaction involves more than two parties, variable values, interdependence between parties, or the need for a third party to reduce friction. Ensuring counterpart compliance, be it payment, transfer, rights, or obligations, remains challenging despite agreed-upon rules, laws, and coercion.

Web3 technology integrates money and data into a unified entity, aligning economic and technological viewpoints. Bitcoin's robust digital value creation and Ethereum's smart contracts enabled full tokenization, while Bettercoin's transactional intelligence brings balance to power asymmetries in digital value exchange through automated negotiation and agreement fulfillment.

Smartcoins: such as Bettercoin cryptocurrency is a not marketing data systems for privacy protection of users, but provide corporations with a means to leverage the benefits of the cryptoeconomics in their sales strategies. By using smartcoins, the companies can take advantage of the decentralized, secure, and transparent nature of blockchain technology to streamline transactions, reduce costs, and enhance customer engagement. This digital tokens new generation that are programmable and customizable to meet specific business needs, based on AI program process for advanced in-blockchain algorithm applications.They can be used for a variety of purposes, including loyalty programs, incentive schemes, and payment systems. By creating their own Smartcoins, companies can establish their own branded digital currencies that can be used to reward customers for their loyalty, incentivize desired behaviors, and facilitate seamless transactions within their ecosystem. Bettercoin is the first approach of the massive implementation of Transactions Intelligence over cryptocurrencies in the future.

Safety considerations in non-technical explanations: there are several essential security components that have been taken into account: technological, transactional, economic, and others. In the technological aspect, all the codes used have been verified by our cybersecurity experts, the latest compilers have been employed, and code control routines have been incorporated, including bait schemes for hackers, along with more than one encryption system and self-managed monitoring. From the transactional perspective of two or more users using smart tokens on a blockchain, the technique of connecting non-consecutive blocks was developed to establish the condition of multiple transactions grouped under the same transaction compliance scheme. From the economic point of view, smart tokens are resistant to volatility, inflation, malicious interference, and considerations related to the common susceptible vulnerability of a cryptocurrency, such as price manipulation through aggressive trading strategies, tokenized and non-tokenized price exchanges, parities with tokens of unknown origin, etc. All these mechanisms are safeguarded in the representation of the digital asset through a smart token, such as Bettercoin. Additionally, two closed-code systems were developed to establish automatic pause and transaction unlocking in the face of a re-entry attack, and a standalone balance validation component was added to

face a potential 50+1 attack. Bettercoin's transactional intelligence technology reserves virtual connectors for future validator node protocols with quantum encryption. Certain critical components for security are reserved for presentation only to SEC.

Future corporate uses: A corporate specialized smartcoin design involves collecting and analyzing data from various sources, including automated point-of-sale systems based on corporate cryptocurrencies, commands customer feedback of offer accept or refuse, and other customer interactions, to improve customer experiences and business outcomes.This enables companies to identify patterns and trends of user behavior, such as purchase history, product preferences, and buying habits, which can be used to personalize the customer experience and provide more targeted marketing and sales efforts. By understanding user needs and preferences, companies can also identify opportunities for cross-selling and upselling.

Wallet To Wallet transactions (W2W): this is an evolution of the P2P (Peer to Peer) protocol, which allows one party to send a digital asset to another without intermediaries, with this data transaction registered on the blockchain. When two users perform a swap, they must carry out two P2P transactions; however, there is no obligation for the second P2P transaction to occur because of the first one. W2W executes transaction aggregation by connecting two blocks that are not necessarily consecutive to generate a second-order transaction. In other words, the first P2P transaction is related to the second P2P transaction, resulting in a more complex W2W-type transaction. This ensures that the second P2P transaction is consistent with the first one. This means that W2W involves at least two records on the blockchain that are linked to establish a cross between them, allowing, for example, the payment for a received digital asset to be effectively made before being able to use it.

Bettercoin extensively utilizes the W2W concept in most of its transactions, enabling users to know that when they send a Bettercoin to another wallet in a first transaction, they can recover it in case there is no second transaction to credit the payment for the recently sent Bettercoins. Another use case of W2W is the delegated transaction of Bettercoin, in which an owner sends their Bettercoins to a Delegate under a W2W scheme so that the Delegate can transfer the payment order (ETH_PAY) to a buyer, also through W2W. In this situation, the original owner waits to receive the payment that the buyer will make, and if it doesn't happen, they can recover their Bettercoins, thanks to the W2W transactions carried out using Bettercoin technology.

Throughout all the aforementioned scenarios, the blockchain provides the foundational technological security, and Bettercoin, in a secondary position, utilizes the transactional logic of the blockchain, generating multiple concatenated records while respecting the characteristics of decentralization, anonymity, encryption, and validation that are typical of the Ethereum Virtual Machine (EVM).

The technical details of how W2W functions have undergone rigorous cybersecurity testing, including re-entry attacks and smart contract attacks, resulting in a secure transactional scheme.

Advanced information are available in the technical Whitepaper TI101-ServerWare, 1st and 2nd releases and Haskell++ notes.