UnitedCoin

Cryptocurrency for Everyone

Yes We Coin!

Abstract

Financial Services is the most profitable industry in the United States (US Department of Commerce). In 2016, finance and insurance represented 7.3 percent (or $1.4 trillion) of U.S. gross domestic product. Making the U.S finance market the largest and most liquid in the world. 6.2 million people were employed in the financial services and insurance sectors in 2016. It generates between 30-40% of all US industry profits. This likely reflects some level of barriers to entry in the system. Total Global Assets Under Management $63T rising to $102T by 2020, and Currency Trading reaches upwards $5.3T per day, and $220 billion per hour.

Cryptocurrencies have become increasingly popular since the emergence of Bitcoin in 2009. The cryptocurrency market cap as of October 30, 2016 is over $300 billion dollars and is projected to be over $2 trillion by 2027. However, most cryptocurrency attributes and services such as encryption, transactions, mining, staking, and trading are only accessible and usable by expert developers and traders. This amounts to less than 1% of the current population. UnitedCoin aims to "bridge the gap" and make these same services accessi-ble to the 99%, through access and education. Providing all with access to cryptocurrency and blockchain services and education. Turning the novice user into a blockchain enthusi-ast. The UnitedCoin Network empowers each member through simple applications and blockchain education centers.

The growth of bitcoin and other popular cryptocurrencies has resulted in classical block-chains becoming less scalable leading to transaction backlogs. UnitedCoin's blockchain uses a new consensus algorithm resolving problems faced by classical blockchains and making this complex technology much more accessible by connecting with a simple and intuitive user friendly desktop and mobile app.

Índice

1.Definitions

UnitedCoin Member Vault

Each member in UnitedCoin network holds an encrypted chunk of data stored in a secure element section of his device. This area is known as the UnitedCoin Member Vault (UMV).

Depending on the resources each member wants to give, the UMV could contain a large amount of data.

UMV minimum contents:

- Digital certificate which can only be decrypted by the UnitedCoin Foundation and the key pairs which are self-encrypted in the device.
- The UnitedCoin Distributed Hashing Table is a distributed hash table for decentralized peer-to-peer computer networks. It specifies the structure of the network and the exchange of information through node lookups.
- The last 2 checkpoint blocks of the hash chain.

All data held in a UMV is self encrypted and can only be decrypted by the UnitedCoin net-work which holds the UnitedCoin Member DataTable. This method of storing chunks of Member Data in the UMV ensures any individual member device breach will be localized and have no effect on the UnitedCoin Network.

Checkpoint Consensus:

Each node in the UnitedCoin network maintains a personal hash chain, which only stores transactions that the node is involved in. A consensus is reached on special blocks called checkpoint blocks rather than on all transactions. Checkpoint blocks are effectively a hash pointer to the personal hash chains. (more detail can be found in the blockchain section)

Proof-of-Resource (POR):

Each UMV has to provide a minimum amount of resources to be in the network.

Proof of Resource (PoR) enables the network to measure a Vault's ability to store, retrieve data chunks, and run the consensus protocol. This is an efficient way to sort nodes relating to their contribution to the network.

This depends on the following criteria of the user's device:

- CPU speed
- Bandwidth availability
- Disk space
- Online time

This allows the proof to be a useful, measurable and immediately verifiable entity.

To participate in the POR, a member need only activate their UMV in the mobile/desktop app settings and select the amount of resources they are willing to allocate to the network. Once activated, the node is included on the UnitedCoin Member List to receive the addi-tional rewards.

Proof-of-Stake (POS):

Like POR, each UMV must have a minimum amount of stake to be in the network. This is an additional way to sort nodes relating to their contribution to the network. POS, size of node deposit or stake, is used as an

additional criteria to be elected as the creator of the next block. Significant advantages of POS include security, reduced risk of centralization, and energy efficiency.

UnitedCoin Active Member: To qualify as Active, a member must perform 2 transactions per month: a deposit, withdrawal, purchase or sell; have a minimum level of allocated re-sources (TBD); and hold a minimum amount of .0001 UNITs in their UnitedCoin Member wal-let.

UnitedCoin Member: A person participating in and supporting the UnitedCoin Network.
Zero-knowledge Proof: In cryptography, a zero-knowledge proof or zero-knowledge proto-col is a method by which one party (the prover) can prove to another party (the verifier) that a given statement is true, without conveying any information apart from the fact that the statement is indeed true.

2.The Unit

The token connected with the UnitedCoin Network is the UNIT. UNITs are used to pay trans-action fees and for securing the network through staking in order to receive Member Re-wards. Member Rewards include the Monthly Member Allowance (MMA) - 20% of Network transaction fees, as well as 20% of all funds acquired through Network use of the United-Coin Pool Mining; and the Monthly Member Benefit (MMB) - a 2% monthly benefit on the UNITs held in each member's wallet. This is the method by which new UNITs are introduced into the Network. There is no block reward for participating in the POR/POS. Large mining farms are discouraged, securing distribution and decentralization throughout the network. In order to receive member rewards, members must be an active member.

UnitedCoin UNIT Token Distribution

UNITs are distributed as follows:

10% for Founders and Advisers
10% for Development of the Network
10% for the IMO: Initial Member Offering Token Sale
70% for Member Reserve for Monthly Member Rewards

3.UnitedCoin Blockchain

The UnitedCoin Blockchain uses the newly developed Proof-of-Membership (POM) proto-col: a hybrid of POR/POS protocols with Checkpoint Consensus. The criteria used for POM are as follows:

- CPU speed
- Bandwidth availability
- Disk space
- Online time
- UNIT stake age
- Member transaction volume
- Total hashes

The UnitedCoin blockchain requires members to verify and validate transactions and per-form consensus. There is no individual block reward for participating. Members share transaction fees and pool funds and are rewarded through the MMA and MMB. Large min-ing farms are again discouraged, prioritizing distribution and decentralization throughout the network.

The UnitedCoin Blockchain is backed by each UMV and UNIT token member stake in the network to allow transactions to take place almost instantly. Member transactions are check-pointed on the UnitedCoin blockchain to log each transaction in a decentralized distributed ledger while keeping the transaction value and identity of the sender and re-ceiver private using zero knowledge proofs.

a. UnitedCoin Network

In the Bitcoin Network, miners have the power. They are rewarded for verifying transactions and supporting the network. One downfall of mining and the Proof-of-Work (POW) protocol is as new miners are added to the network, transactions become more difficult, transac-tion fees rise and the network does not increase in speed. In essence, the growth of the Bitcoin Network makes it less efficient.

Using their position, miners have individually decided to fork the Bitcoin network two times in less than a year creating two new cryptocurrencies: Bitcoin Cash and Bitcoin Gold. The forks have been to increase transaction speed, and network efficiency. However the result has been the reduction of the original Bitcoin network's computing/hashing power, thus making it more vulnerable. As a result making the original Bitcoin Network slower, leaving 100s of thousands of backlogged unconfirmed transactions in the process.

In the UnitedCoin Network there is no miner aristocracy. The members are the UnitedCoin Network. Members create the transactions, validate other members, verify transactions, and supply the resources for additional services. For their participation and support of the network, members receive rewards in the form of the UnitedCoin reward token, the UNIT. As new members are added to the UnitedCoin Network, transaction speed and security increases. There is no need for forks. When a member wants to add a new feature, mem-bers make the decision if they want to make the change. If there is consensus, the change is made. If not, the network continues as the members decide.

UnitedCoin. Cryptocurrency For Everyone.

b. Consensus protocol

The Consensus used in UnitedCoin blockchain has brand new architecture similar to our daily life because we make transactions every day. when we go to the shop, when we see friends even when you are at home with your parents.

In actual blockchains like Ethereum or Bitcoin, when two parties transact, the entire net-work has to verify this transaction and check if each party follows the rules for making the transaction. Then the transaction can be put in a block to be on the blockchain. If we rep-resent this in real life, it's like giving $5 for a chocolate in a shop in Florida and someone in Tokyo has to check if you have enough money before paying them. It's a waste of time and energy. In our system a node validates transactions in which they are interested/involved. However, we have to make all nodes in the same state to ensure viability of the block-chain. Thus, we introduce a new type of block called Checkpoint blocks (CP). More detail is available in this section.

UnitedCoin Blockchain consists of three protocols running simultaneously. These protocols do not interact with one another. They run and govern the member chains individually and simultaneously. The only moment of synchronization takes place on the UnitedCoin Block-chain from which all protocols read and write.

The three protocols are: the Checkpoint Consensus Protocol, the Peer to Peer Transaction Protocol, and the UMV Validation Protocol. Our modular protocol design maintains a de-sirable non-blocking property. This allows the chain to maintain an open status, meaning each protocol can continue to run without locking the chain to perform consensus. While a member is performing a transaction, a checkpoint block can be verified and placed on the UMV chain in any state.
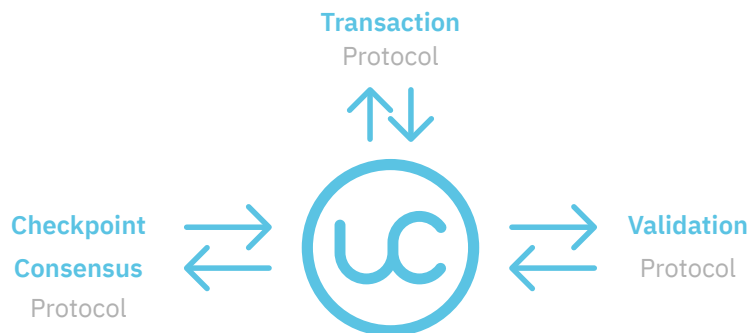
Figure 1: The four components of the UnitedCoin network

The architecture of the UnitedCoin network is visualized in Figure 1. It consists of one data structure— UnitedCoin blockchain, and three protocols. The protocols have distinct roles which are evident from their names. They run concurrently and do not interact with each other. The only synchronization happens on the UnitedCoin blockchain layer, where all the protocols read and write from. We first describe each component individually, starting with the Unitedoin blockhain, and then explain how they fit together.

c. P2P Transaction Protocol

Every transaction in the UnitedCoin network results in two transaction half-blocks. One transaction is recorded in each Member's personal hashchain represented by the transac-tion. This is a simple peer request and peer response protocol where messages are rec-orded on each UMV hash chain. This uses the work on True Halves to allow for simple trans-action validation.
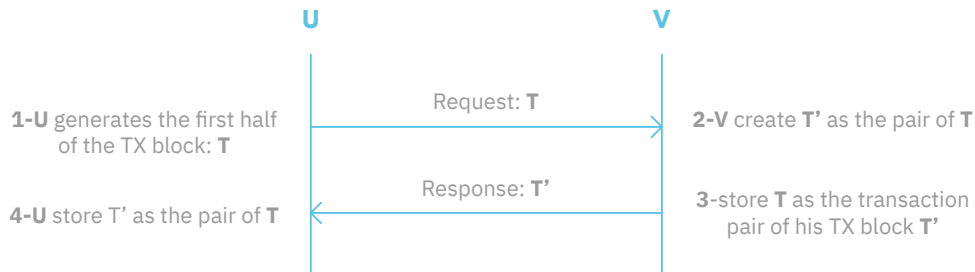

Figure 2: visualization of the transaction protocol

d. UMV Validation Protocol

Member transactions can be easily validated by any UMV. A node simply requests the fragment of the chain involving their transaction from the counterparty. This fragment holds a portion of the hashchain, beginning and ending with a checkpoint block with consensus, and also contains the transaction involving the requesting UMV. The requesting UMV checks if all the rules are verified before sending a Boolean response 0 for not verified and 1 for verified.
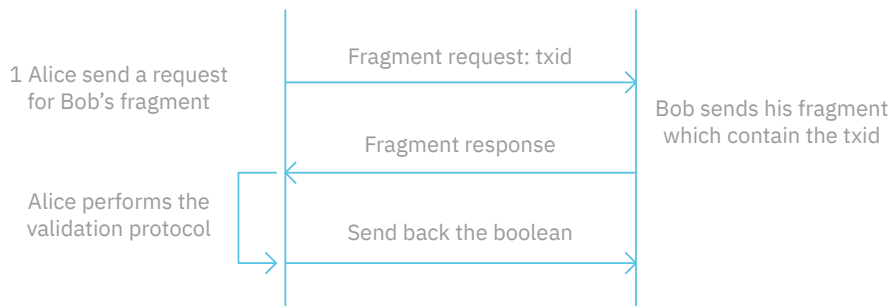

Figure 3: visualization of the validation protocol

The uniqueness of the UnitedCoin blockchain is held in the UMV Validation Protocol. Using Peer-to-Peer communication, where nodes/UMVs only validate transactions they are in-volved in, the validation protocol allows for unlimited horizontal scalability.

e. Checkpoint Consensus Protocol

Each member device in the UnitedCoin network is also a node or a UnitedCoin Member Vault (UMV). Each member Vault holds a personal hash chain that contains only transac-tions involving that member. Consensus is reached by "checkpointing" these transactions on blocks called checkpoint blocks. Checkpoint (CP) blocks in practice are hash pointers to the UMV hashchains.

Checkpoint Consensus allows double transaction verification through consensus of mem-ber transactions while also performing remote attestation of all nodes in the network. This creates a trusted verifiable proof-of-membership (POM) on all transactions. Through checkpointing, millions of previously verified member transactions can be included in a single block. Through double transaction verification, member nodes/UMVs need only hold and broadcast their transactions and two previously check-pointed blocks to maintain consensus throughout the network.

Checkpoint blocks are verified by a group of randomly selected nodes called Monitors. Monitors are chosen using the Proof-of-Membership Protocol: a hybrid reputation system similar to those used in Proof-of-resource and Proof-of-stake models. Reputation is based on the amount of allocated resources to the Network, as well as the number of reward to-kens/UNITs each member holds. This method is used to reduce fault tolerance and keep faulty or malicious nodes from participating by requiring each member to have a vested interest in the network's success by showing UnitedCoin network support.

Step 1: We have n monitors and checkpoint block.
Step 2: All the nodes send the monitors their checkpoint block.
Step 3: The monitors run the ACS protocol to have a consensus result (Cr), the they hasg this Cr (it's the compact Cs).
Step 4: The compact Cs is sent to all honest nodes to be on the same state.
Step 5: All honest nodes run 2 task: elect new monitors* and create a new checkpoint block
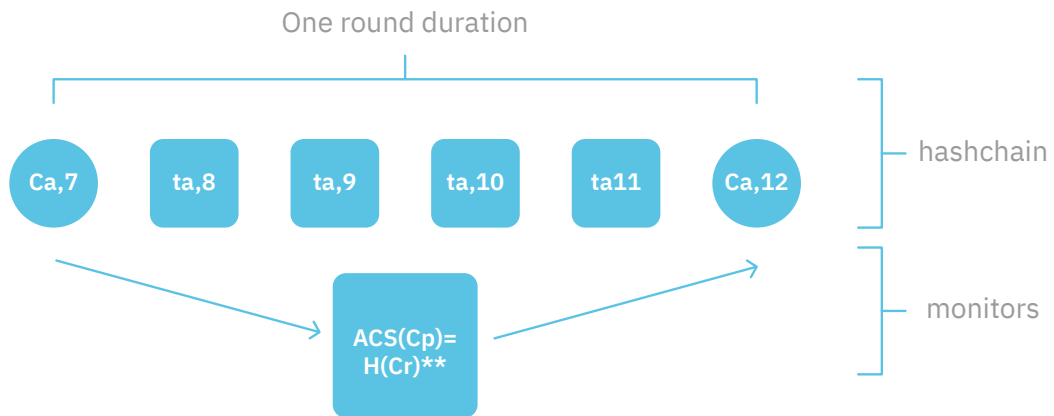

Figure 4: the 5 steps to achieve consensus between all nodes in the network

The figure above shows the 5 steps to make all nodes in blockchain the same state. The core of the consensus phase is the ACS (Asynchronous Common Subset) algorithm which is an especially useful primitive for blockchain systems. It allows any party to propose a value and the result is the set union of all the proposed values by the majority. In our case, ACS takes Checkpoint blocks as an input and has a Consensus result as an output.

The objective of the protocol is to have honest UMVs continue to progress in the form of creating more checkpoint blocks, compute consensus correctly in every round, and choose monitors without bias.

To reduce communication cost, checkpoint blocks on the UnitedCoin blockchain are compact blocks with a corresponding full checkpoint block. These compact checkpoint blocks are hash pointers to full checkpoint

blocks. When validating and verifying transac-tions, only the compact block is needed. Compact blocks hold the following information:

 1) The sequence number of the corresponding full checkpoint block;
 2) The digest of the corresponding full checkpoint block;
 3) The digest of the previous checkpoint block.

Using bitcoin block size of 500 bytes as a base, the compact block size uses SHA-256 to create a block size of 64 bytes. This reduces on chain block size by 86%, and reduces the storage space needed for the blockchain, and increases network speed.

The compact checkpoint blocks use Zero Knowledge proofs. This maintains privacy of members and their transactions. All transactions have been verified on two levels prior to reaching the UnitedCoin blockchain. Using the POM protocol allows the blockchain to know each transaction was performed by a trusted member, with allocated resources, and with a stake in the network.
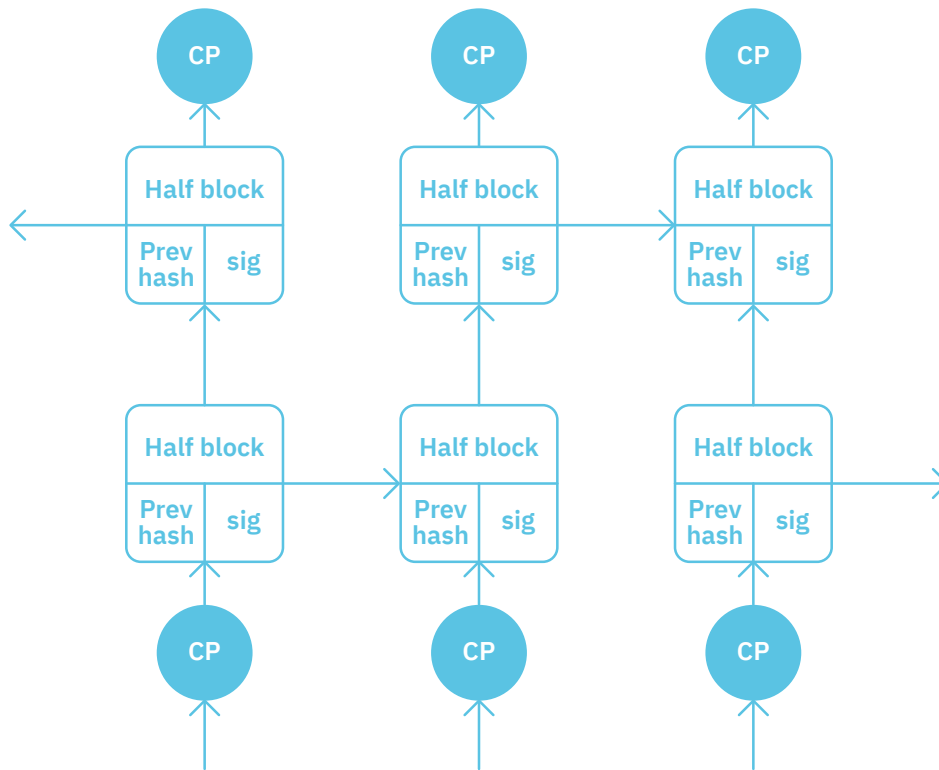

Figure 5: representation of 3 nodes in the UnitedCoin network

The Figure 5 shows you 3 UMV which performed transactions. The horizontal arrows repre-sent the references to the half block of the counterparty and the vertical arrows refer to hash pointers of the previous block in the UMV personal hashchain. The circles represent CP blocks.

f. UnitedCoin Wallet (UCW)

The UnitedCoin Wallet (UCW) is used within the member app. The member app is accessed by member username and password. The member app uses a hierarchical deterministic wallet to allow access to wallet funds with a 12 word password phrase. All wallets support-ing the UnitedCoin blockchain can be used to access member funds.

Members can access their private keys from the network at anytime but are not required to hold their keys or use them to conduct transactions. This allows novice users to partici-pate in the network without advanced knowledge and experience of public/private key use and storage. The private and public keys are encrypted and held in the secure element on the member device maintaining the highest levels of security and privacy.

Legacy financial systems and traditional banking services are bridged with blockchain and cryptocurrency services through the UCW. Members can deposit and withdrawal funds with a connected bank account or debit card. The UnitedCoin wallet also allows members to connect their funds to a MasterCard allowing online and in-person transactions at over 49 million locations worldwide. MasterCard also allows members to cash out from ATMs, allowing them to fully bridging their cryptocurrency holdings with legacy fiat currency payment terminals. MasterCard facilitates an easy transition for members using their famil-iarity with debit cards to connect with the future of finance.

The UCW also allows members to allocate resources to the UnitedCoin Pool in order to use their devices to mine cryptocurrencies and verify transactions. This feature introduces nov-ice members to complex cryptocurrency mining with the ease of a mobile app. Participat-ing in UnitedCoin Pool mining entitles the member to additional rewards through the MMA. 70% of mining rewards are distributed as UNITs to the member during the MMA. The remain-ing 30% of the mining rewards are injected into the UnitedCoin Network to increase UNIT token value.

g. UnitedCoin Blockchain Upgrades

Members are the UnitedCoin Blockchain. Blockchain governance and upgrade decisions are conducted via a simple yet mandatory voting system through the member app. Only 1 proposal can be made every 30 days and are held in queue on a first come first served ba-sis. When a new proposal is presented to the network, there is a 30 day voting period to de-termine if it is a change desired by a majority of members.

A simple in app voting form is displayed prior to access to the member account. The pro-posal is described in 180 characters or less with a choice of yes, no, or no contest. If the member chooses to ignore/close the voting form without a selection, a vote of no contest is entered. In order to be implemented, a proposal must have 51% member participation with 51% member approval.

h. UnitedCoin Transaction Costs

Transaction fees in the United Coin are non existent. UnitedCoin members only pay the cost associated with conducting a transaction. This includes exchange transactions, remittance transactions, and blockchain transactions.

In the exchange members pay a maximum of .3% in costs for conducting trades. This same maximum cost applies to remittances. In the blockchain, transactions costs are minimal. The default transaction cost is .00000001 UNITs. This is the lowest cost per transaction avail-able in blockchain technology. This allows anyone to participate in the UnitedCoin net-work. The speed of transaction on the UnitedCoin blockchain makes paying more for faster transactions a thing of the past.

i. UnitedCoin Blockchain Testing

The UnitedCoin blockchain was first tested at an infantile stage. The testing revealed scalability, communication cost, and transaction speed (tx/s) with confirmed transactions. The testchain used three unoptimized modules for ease of testing. Included were cached agreed fragments and compact blocks; the cryptography used was SHA256 and Ed25519.

The following parameters were used:

- the maximum number of monitors - 32
- the number of nodes used - 1200
- each node was fixed to 2 TX/s
- transaction size was held between 400 and 600 bytes (comparable to the average Bitcoin block size of 500 bytes)
- nodes communicated with a random node for all transactions

Our results were very promising. Communication cost has a linear correlation to the popu-lation size, peaking at approximately 100MB. This is a result of the Consensus protocol being separate from the transaction and validation protocols. Communication cost also in-creases when the number of monitors increases. Over time, the round duration increases as the number of nodes and monitors increases. This is a result of having to hash more CP blocks to accomplish consensus. As the number of nodes increase the number of hash op-erations each node must perform also increases.

In the testchain, when communicating with a random neighbor, a fragment must be communicated with each transaction. During testing, the validation protocol is sent at the same time as the transaction. Thus inspecting all transactions in the fragment, not just the transaction in the original request.

Transaction speed from the testchain is promising. Transaction speed tops out at 4800 transactions per second. Each transaction in the chain is between two parties. A node sends 2 tx/s, and it also expects to receive 2 tx/s. Therefore, the transaction blocks are cre-ated at 4 per second. Validations are sent at the same rate.

In our test, transactions are validated in bursts of 5 seconds. The validations do not increase as transaction speed increases over time. The validation protocol cannot keep up with the transaction protocol. Therefore the fault tolerance of every round of transactions takes 80 seconds to completely verify.

Two adjustments are made for the final iteration of the blockchain:
     1) Proof-of-resource is used to select monitors. This increases the speed of the validation process and
     reduces verification times, reducing fault tolerance.
     2) Proof-of-stake is also implemented to increase trust between nodes in a permission-less system.
     3) Together 1 and 2 help to form the Proof-of-membership protocol. POM takes into con-sideration
     stake, resources contributed, and transaction volume.

j. Blockchain Use Cases: Blockchain as a Service (BaaS)

The UnitedCoin blockchain is unique in its ability to be customized and integrated into to many industries for various use cases. This allows the blockchain to be implemented into existing institutions and interconnect with the UnitedChain allowing the instant sharing of anonymous data in a secure and trusted environment.

Some current use cases for the UnitedCoin blockchain are:

- Trade finance: Optimization of the process operations (Streamlined operation process)
- Real Estate: Valuation projections and transactions security
- Medical: Transaction of sensitive data
- Education: Sharing of accurate data
- Supply Chain: Optimize data sharing

4.UnitedCoin Member Rewards

Members participating in the UnitedCoin Network are rewarded each month for their par-ticipation. The two forms of rewards are the Monthly Member Allowance (MMA) and the Monthly Member Benefit (MMB). Monthly Member Rewards are paid with UNIT reward to-kens purchased at market price or distributed from the Member Reserve.

The algorithm determining MMA and MMB reward levels uses the following criteria to disperse monthly member rewards.

- CPU speed
- Bandwidth availability
- Disk space allocated
- Online time
- UNIT stake age
- Member transaction volume
- Total hashes

Only active members receive monthly rewards. To qualify as active, a member must per-form 2 transactions per month: a deposit, withdrawal, purchase or sell; have a minimum level of allocated resources (TBD); and hold a minimum amount of .0001 UNITs in their Unit-edCoin Member wallet.

The MMA is a 20% portion of all fees collected monthly in the UnitedCoin Network from UPX transaction fees (exchange), and from services conducted from the use of allocated member resources in the UnitedCoin Pool. The portion of collected funds are used to pur-chase UNITs at the market rate, and then dispersed to members using an algorithm deter-mining their individual level of participation in the network. (mention that we include also eve-ry deal we close as UC)

The MMB is a 2% monthly increase in member UNIT holdings for securing the UnitedCoin network. This is an equal increase in active member holdings and is the method used to create additional UNITs. The maximum

number of UNITs ever produced is 180 million UNITs. Once the maximum number of UNITs is reached, tokens will be purchased at market price, and distributed to members.

The remaining monthly revenues from UnitedCoin services will be reinvested into the UNIT and the UnitedCoin Capital to increase member value. Reinvesting funds into the UNIT through market purchases, creates a constant demand on a limited supply of tokens. Using basic economic principles, the value injection results in an increase in UNIT value persis-tently through its life cycle.

5.UnitedCoin Peer-to-Peer Transaction Platform (UPX)

The UPX Platform is distributed and stored in chunks on member devices to maintain de-centralization. The UPX is a platform where members can conduct Peer-to-Peer (P2P) transactions and exchange cryptocurrencies from multiple blockchains at a high rate with absolute security and trust.

The UPX platform interconnects multiple blockchains allowing simple and fast transfer of funds. Within this trusted network transactions can occur at speeds of up to 1 million trans-actions/second (tx/s). The UPX holds 98% of all member funds offline in cold storage to maintain the highest levels of security. The platform is secured online with a Wildcard SSL certification to maintain security in all environments. The network uses distributed hashing tables with Kadmila encryption to establish a secure P2P network.

The architecture for the UPX is innovative. Individual blockchain nodes are used as full cli-ent source oracles for independent classical blockchain transactions. The wallet API for each blockchain is also integrated into the node allowing storage and transaction of mul-tiple cryptocurrencies.

In order to facilitate instant transactions, the UPX uses the UNIT and the UnitedCoin block-chain protocol as a foundation. All buys are held in the Buy pool while all sales are held in the Sell pool. Buys and sells are intelligently matched using an intelligent order matching algorithm. Even if an exact trade is not available, a match can be achieved by combining multiple orders. High liquidity is maintained through partnerships with other exchanges. (ADD LIQUIDITY PROVIDER)

6.UnitedCoin Member Security

Each member's identity is known and verified by the UnitedCoin Network, however mem-ber identities and private data are not shared with other members. This allows the network to comply with all AML/KYC/BSA/CFT regulations while still maintaining member privacy. A member may choose to disclose his/her identity when a member invites another potential member into the network by transferring them cryptocurrency or via referral link. This is done to create familiarity. "I'm in. I'm inviting you to join. Let's coin together."

Member UPX platform access is available by user name and password along with a pin and/or 2 factor authentication (2FA) through Google Authenticator ADD FACE/TOUCH id. The Member Identity is then self-encrypted and stored in the secure element of the mem-ber's device. A self-authentication feature allows the member to access the UPX platform with privacy and ease.

Knowing that the UMV contains the most important data of a UnitedCoin Member, a high secure asymmetric encryption is used for all data storage. Unfortunately, if your device has been stolen, you may retrieve your UMV providing 3 of the below methods:

1. Login/password
2. PIN code
3. Google authenticator
4. Voice recognition
5. Face ID
6. Touch ID
7. Geolocalisation, the place you usually open your UMV
8. 3 random questions about your personal identity

7.UnitedCoin Pool (UCP)

Through agreed upon permissions a member allocates a portion of their device's memory and processing power/resources to the UnitedCoin Network for data storage and transac-tion processing. The collective UMVs create the UnitedCoin Pool (UCP). POR can be per-formed on a device as small as a mobile phone or as large as a mining rig. Successful im-plementations of using mobile phones instead of personal computers for cryptocurrency mining have resulted in reduced power consumption and improved efficiency per hash, while increasing network distribution and decentralization.

The network pools all transaction fees and pool earnings, and redistributes them to mem-bers based on their participation in the network each month via the Monthly Member Al-lowance (MMA) and Monthly Member Benefit (MMB). Member portion of reward distribu-tion is determined by the amount of resources they allocate and the amount of UNITs stak-ing in their UCW. The member fee distribution method discourages large mining farm cen-tralization of processing power/resources and encourages a distributed decentralized network.

All POR participating member devices are UnitedCoin Blockchain nodes as well as a UMV. As long as the device is connected to the internet, the member device/node is able to participate in both hosting the UPX platform

and in verifying transactions on the block-chain. Additional Member Resources in the UCP can be used for additional tasks. The first of which is cryptocurrency mining and High Frequency Trading (HFT) to increase member MMA and UNIT value.

8.UnitedCoin Coin Capital (UCC)

With the collaboration of international traders and top-notch expert advisors, UnitedCoin is able to offer a unique investment manager for its members to capitalize on the expansion of the cryptocurrency market cap as well as optimizing their investment through responsi-ble diversification. The manager will trade cryptocurrencies with thoroughly assessed value in order to pick the best potential performance.

Our Expert Advisors will identify price patterns to forecast trends and retracements. Our traders will focus on money management, fundamental and technical analysis to optimize entry and exit levels.

The alpha trade manager started in March 2017, and has provided over 1,300% ROI. Coins picked to be part of the UnitedCoin Coin Capital are disclosed as they enter the portfolio to favor UnitedCoin members and the network. Adjustments to the portfolio weights may occur for capital protection reasons and are disclosed to members across the network.

Members have access to the UCC to benefit from the potential increase in value. When a member decides to withdraw a portion or the entire invested amount, UnitedCoin sells the member's portion of the diversified portfolio in the secondary market for UNITs and returns UNITs to the member. Ultimately, such transactions tend to increase the value of the UNIT through increased demand in the market, a win-win for the members and the entire eco-system.

Once submitted by the holder, sell orders, as well as buy orders are instantly placed in the market to insure full transparency. Members have access to the UCC section on the Unit-edCoin platform and can check the value of their own portfolio or the aggregated value of the UnitedCoin portfolio in real-time. Members may access the UCC simply in the ac-counts section of the UnitedCoin Wallet.

(This does not in any way create a guarantee or warranty to the increase in value of the UNIT token.)

9.UnitedCoin Blockchain Embassy

For mass adoption of Blockchain technology and cryptocurrencies non-technical individu-als need a place to learn and grow. UnitedCoin Blockchain Education Centers (UBE) are hubs for blockchain education and innovation. Each center provides courses for individu-als to learn blockchain basics and advanced methodologies.

Conferences and classes are held with blockchain experts, researchers, and pioneers in the field. Partnerships with Universities, allow us to broadcast education and facilitate pub-lic integration of Blockchain technology. All geared towards making the novice user a Blockchain expert and advocate.

At the UBE, individuals can expect to have access to all the facilities they are familiar with at a traditional bank: ATM, deposits, withdrawals, etc. In addition to scheduled meetings focused on blockchain financial education, University Alumni, hosted workshops and semi-nars geared towards understanding the underlying technology of blockchain as well as its applications. The curriculum includes cryptocurrency miners who provide training on min-ing rig construction, programming, and maintenance. Cryptocurrency traders show step by step strategies they use in their own portfolios. Blockchain researchers share knowledge of future implications and applications. UnitedCoin's objective is to fully prepare individuals for the technological shifts taking place around the world.

The first UBE is located in Morocco. The first conference is scheduled for Q4 2018.

10.Conclusions

For blockchain and cryptocurrencies to reach their full potential, mass adoption is a ne-cessity. To facilitate adoption, individuals must have the skills, knowledge and be able to use the equipment they currently own to use blockchain and cryptocurrency services. UnitedCoin facilitates this through innovation, access and education.

The UnitedCoin Wallet is connected to legacy systems with which they are familiar. Bank accounts and debit cards. The UCW is also connected to blockchain and cryptocurrency services. This includes access to the peer-to-peer transaction network connected to multi-ple blockchains, cryptocurrency services, and a reward token for participating in the net-work. Members are therefore able to join the blockchain community and learn as they grow. UnitedCoin Blockchain Education Centers(UnitedCoin Blockchain Embassy) provide access to education, research and training to empower these same members with the knowledge to form a pathway to blockchain growth and success.

The UnitedCoin blockchain provides a truly scalable blockchain that can be used by any member worldwide in any field. Its modular protocol design allows horizontal scalability, permitting the UnitedCoin network to become faster and more efficient as it grows. Through the employment of a hybrid POR/POS protocol, double spending attacks and fault tolerance issues are eliminated. Thus making the UnitedCoin network and its members fully prepared for the future of finance.

11. References

Proof of Resource:
https://safenetwork.wiki/en/Proof_of_resource

Proof of Stake:
 https://en.wikipedia.org/wiki/Proof-of-stake

Zero-knowledge Proof:
 https://en.wikipedia.org/wiki/Zero-knowledge_proof

CheckPoint Consensus:
file:///Users/expectgreatness/Downloads/kcong_thesis.pdf

Maidsafe white papers:
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/AutonomousNetwork.pdf
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/MaidSafeDistributedFileSystem.pdf
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/MaidSafeDistributedHashTable.pdf
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/PeerToPeerPublicKeyInfrastructure.pdf
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/SelfAuthentication.pdf
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/SelfEncryptingData.pdf
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/MaidSafeDistributedHashTable.pdf
https://github.com/maidsafe/Whitepapers/blob/gh-pages/pdf/MaidSafeDistributedFileSystem.pdf

Monero white paper:
https://cryptonote.org/whitepaper.pdf

Zcash white paper:
http://zerocash-project.org/media/pdf/zerocash-extended-20140518.pdf

NXT White Paper:
https://bravenewcoin.com/assets/Whitepapers/NxtWhitepaper-v122-rev4.pdf
https://www.coindesk.com/standpoint-founder-bitcoin-asset-class-will-grow-2-trillion-market/
https://news.bitcoin.com/samsung-builds-bitcoin-mining-rig-using-old-phones/
http://uk.businessinsider.com/ico-mangrove-capital-average-returns-crypto-icos-2017-10
https://www.selectusa.gov/financial-services-industry-united-states
https://www.pwc.com/gx/en/asset-management/publications/pdfs/pwc-asset-management-2020-a-brave-new-world-final.pdf
www.coinmarketcap.com

P. Veldhuisen, 'Leveraging blockchains to establish cooperation', Master's thesis, Delft Uni-versity of Technology, May 2017. [Online]. Available: http: / / resolver . tudelft . nl / uuid : 0bd2fbdf - bdde - 4c6f - 8a96-c42077bb2d49.

Z. Ren, K. Cong, J. Pouwelse and Z. Erkin, Implicit consensus: Blockchain with unbound-ed throughput, 2017. eprint: arXiv:1705.11046. TradeBlock. (Oct. 2015). Analysis of bitcoin transaction size trends, [On- line]. Availa-ble: https://tradeblock.com/blog/analysis-of-bitcoin-transaction-size-trends (visited on 14/07/2017)

A. Kiayias, A. Russell, B. David and R. Oliynykov, 'Ouroboros: A provably secure proof-of-stake blockchain protocol', in Annual International Cryp- tology Conference, Springer, 2017, pp. 357–388