UCASH

INTRODUCING U.CASH'S PLAN FOR GLOBAL P2P FINANCIAL SERVICES

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U·CASH: A Peer-to-Peer Global Financial Services Network

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Abstract. Traditional banking is becoming obsolete. Old models of doing business are being replaced by peer-to-peer sharing economies, empowering end users and individual service providers. Blockchain innovations, initially introduced by Bitcoin, are allowing technology to play the role of traditional centralized entities, transfiguring the internal processes of banks and other financial intermediaries into software code that is accessible by all. Brand loyalty and customers for life are turning to financial self-determination via highly available digital tools all courtesy of blockchain technologies. Users are turning towards global services which give them seamless access to services regardless of their 'financial status' in the world without the hassles and inaccessibility of traditional institutions. We call this mass change the 'global unbanking' and U.CASH is the catalyst to this process by virtue of its business model, technological layer and unique proposition to bring financial services access to all.

U.CASH is a blockchain based financial platform and digital asset converter network with a built in cryptocurrency for payments of fees, execution of smart-contracts and additional functionality. Our retail converters are our branches and ATMs. Retail converters range from brick and mortar businesses to individual mobile converters, providing in-person loading and unloading capabilities. Online converters accept various remote funding options (such as bank deposits, online transfers, remittance networks and other forms of payment) increasing the capability of users to easily access the network even without a retail converter nearby. Our partners are 3rd party providers who enable users with access to specific services in their local areas. These include access to local bill payments, mobile phone service providers, remittance networks, loan management, prepaid cards and much more. Our merchants are businesses (or individuals) who accept U.CASH (or any other forms of digital cash) as payments for their services or products. Our users are anyone in the world who wants to truly control their money, digital assets, data and access to various services and funding methods regardless of where they are. Transactions are entirely peer-to-peer between all users, converters, merchants and partner service providers, allowing for quick settlement and high degrees of trust when used in combination of our review feedback system. Specific smart-contracts enabled by blockchain technology govern all transactions on the network while allowing access to previously impossible types of services such as blockchain based notarization and decentralized escrow capabilities.

Using real world experience and data, backed by consultation and collaboration with multiple partners, U.CASH has developed a new type of financial services system built on a base of blockchain technology and a distributed economic model. Let the unbanking begin.

The content of the whitepaper is continually updated with new information

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1.   The U.CASH Mission

We are building a global distributed financial services network powered by blockchain technologies. With the majority of the global population either "over-banked", "under-banked" or "unbanked", U.CASH offers anybody with an internet connection an alternative to traditional centralized financial institutions like banks and credit unions. We are unbanking the world. Unbanked users living anywhere in the world can access U.CASH using our digital asset converter network and get quick access to both blockchain-based and traditional financial services. Services formerly only available in developed and developing countries with traditional banking and financial infrastructure can now be accessed by anyone anywhere with a computing device and internet connection.

We are enabling simple capabilities like bill payments, secure holding of digital assets, global remittances and transfers to users even in the most remote locations. Our converters allow users to quickly load and unload money onto U.CASH in whatever local currency is required.   With these capabilities a network effect is quickly generated due to increasing demand for digital currencies. Thanks to the permissionless and distributed nature of our technology, U.CASH is introducing a new type of unbank capability to the world, globally accessible by all, peer-to-peer, self-empowering, and revolutionary.

This paper outlines how U.CASH works, what our goals are, and how we will accomplish them. A mission as innovative and massive in scope as U.CASH needs participation from people all over the world with varying backgrounds to realize its full potential. As such, we are introducing a new model for incentivizing network growth - Initial Bounty Offerings (IBOs) - as we roll out our decentralized technology infrastructure. We introduce to you U.CASH, the global unbank.

2.   A Vision for the Global Financial Ecosystem

Safe, efficient access to a worldwide financial system is foundational to a well-functioning future digital economy. Financial services will become as accessible and ubiquitous as e-mail and social media. The high level of trust users have in the future P2P financial system and the efficiency of that system to circulate value in a secure manner while meeting everyday needs, will contribute to the robustness of the global economy as well as the U.CASH network. As external drivers exert added pressure on the system, there is a critical need for the system to appropriately respond and evolve. A true global financial ecosystem must take into consideration the wide variety of user services, currency/asset requirements and be extensible enough to connect with multiple technologies, applications and independent providers so it can meet the demands of its network.

Financial systems are meant to be dynamic and proactive with respect to the constantly evolving requirements of its users in the broader economy. As a network that is fiat, cash and digital currency agnostic, U.CASH lets its users load and interact with any supported currency or asset of their choice. A native network fuel, UCASH, is used for settlement between users and transmission of data, and enables distributed advanced contracts between recipients, senders, users and converters. The majority of UCASH will be distributed using an Initial Bounty Offering (IBO) model increasing the ability of users anywhere in the world to join the network and contribute to its growth. This model of distribution is explained in further detail in the accompanying whitepaper "Initial Bounty Offerings (IBOs): A Framework to Build Blockchain-Enabled Organizations".

U.CASH is built to be the ecosystem enabler and transactional layer for a truly global financial ecosystem. As a "public utility" that can be accessed by anyone in the world, and a way to earn income and service clients, U.CASH is designed to be empowering and paradigm altering when it comes to providing financial inclusion for all.

3.   Challenges of Traditional Financial Markets

Traditional banking services have a manifold of problems constraining their usage and growth in emerging markets and in mobile commerce. Their ability to adapt to requirements of quickly growing, technologically savvy populations in the developing world is diminishing over time.

The ability of small entities to provide financial services has historically been hindered by high deployment, regulatory and maintenance costs, proprietary solutions, closed-source APIs, and the fact that proper security, compliance and reliability is dependent on expensive hardware and software modules. All these factors lead to high transaction costs, inability to interoperate between financial entities and complex system wide procedures and delays. This means great difficulty in servicing low-income, low earning markets and the inability to provide truly global, fully accessible financial services.

U.CASH solves these problems by providing users and service providers a platform for money and digital cash equivalent (Universal Cash) management, which includes all necessary modules for an unbank including distributed smart-contracts, mobile and online applications, and bank-grade security infrastructure. U.CASH pairs this technology with a retail network of converters who provide users the means to load and unload funds from their digital wallets. This Universal Cash can then be used for many traditional financial services such as bill payments, sending funds, mobile recharges, loan repayment, prepaid cards and others. Access to this platform is available to anyone with an internet connection and users themselves can become converters and offer others access to the U.CASH network.

3.1 Low Penetration of Traditional Banking Systems

The world has come to rely almost entirely on financial institutions serving as trusted third parties to process electronic transactions and act as custodians of people's funds and assets. As economies grow increasingly dependent on these centralized financial institutions, regulators are tightening their laws surrounding anti-money laundering (AML) and know your customer (KYC) rules and regulation. While intended to protect users, these measures often create difficulties for businesses to financially innovate while end customers miss out on the benefits from advances in financial technology.

Nearly 2.5 billion people live in regions where no banking infrastructure exists. Centralized financial service providers are disincentivized to provide custodial accounts or facilitate financial services due to high infrastructure costs and low profit margins. The majority of people in developing countries have no options and would benefit from typical financial services enjoyed by highly banked regions and can tremendously benefit from vital access to financial services as a bridge out of poverty.

4. What is U.CASH

U.CASH is a peer-to-peer network of retail service providers (converters) combined with online and mobile applications (apps) targeted towards providing financial empowerment. It allows any person in the world to access bank-like services without the actual need to interact with a bank ever again. Converters will provide conversion from fiat cash to digital cash (including Bitcoin and other digital currencies) and vice versa. Converters will charge service fees for these conversions. End-users will use the app to find the closest converter or the ones providing the best rates. This feature will work similar to other sharing economy business models. The U.CASH app lets users convert their balances between various digital currencies, pay their bills, instantly send money worldwide, apply for loans from other converters, do mobile top-ups, and much more. Some of these services are provided by partners including financial payment processors, telecommunications service providers, bill payment services, retail money service businesses, and online software integration. To help facilitate efficient peer-to-peer transactions in a distributed manner requires the use of a native fuel (UCASH) built using its own unique implementation of building on top of every capable blockchain, for access to robust smart-contract and cheap transaction capabilities, while also negating the risks of relying on just one single platform.

We initially tested U.CASH capabilities using a fork of Bitcoin, and experimented with other blockchains including Ethereum, but we quickly came to realize that the niche market requirements of building a distributed financial services network requires a custom built blockchain platform that utilized all available technologies. Waiting for software upgrades and the associated technology leaps using existing networks is problematic for us as the specialty needs of our network would be

in competition with various requirements of other entities and the general needs of users on other public blockchains. We believe there will be specific blockchain implementations for separate industries such as a "Legal Chain" and a "Medical Chain", which directly address the needs of those industries, and U.CASH plans on supporting all of the ones that have value. By using its own standards, code and functions as building blocks, U.CASH will emulate and expand the existing financial services system to enable a global unbanking.

U.CASH transactions are peer-to-peer between users and converters, converters and converters and users and users. This negates the need for third party custodians of funds, instead requiring the use of a digital fuel (UCASH) to efficiently settle these transactions. Bitcoin and other digital currencies will also be supported but much higher network transaction fees may be required for use of those blockchains. As new technology layers and capabilities are built for both Bitcoin, Ethereum and other digital cash equivalents, U.CASH will continue to integrate and make use of all advancements that would benefit the ecosystem we are building.

5. What makes U.CASH function

U.CASH is powered using a combination of digital currencies, multi-signature escrow, and smart-contracts with distributed data storage, that all allow access to a globally compatible worldwide network. Blockchain technology is foundational to U.CASH and allows us to redefine and create new types of financial products and services targeted to both banked and unbanked consumers, merchants, converters and partner providers. With blockchain powered digital currencies and a simple computing device, value and data can be exchanged with minimal fees and without any centralized authority. Value can be safely moved without pre-existing trust or middlemen. Digital currencies offer low cost cross border payments, remittances, online payments, business to business payments and much more. They allow for microfinance and loans to people, by the people, and for the people. Credit scores can be assigned, even in areas where millions of people live without passports or other forms of identity documentation. New models of finance are being built from the ground up that will render many of the existing models obsolete.

5.1 Why Blockchains and not a Centralized Solution

The use of all capable blockchain platforms for building U.CASH was an inevitable decision after years of research, development and testing. Current public blockchains in production are trying to be many things to many different users, and as such all suffer some sort of deficiency individually. Their mandate to appeal as a basic technology layer for other apps and businesses to build on implies that their development path and strategy is geared to implementing as many use cases as possible. Conversely, we require certain feature sets and capabilities from our blockchain infrastructure which specifically target financial services. These include specialized smart-contracts which emulate the processes of traditional banks and the encompassing ecosystem. We believe

every blockchain has its own advantages such as at times cheaper transaction fees, niche capabilities, and its own unique ecosystem of users and services.

The U.CASH platform is a basic layer for future unbanking services to be built upon, and that utilizes all existing blockchain platforms in a seamless manner. The U.CASH network will be built specifically so money service businesses, financial services entities, partner providers and platform users can use any technology layer without necessarily being aware of which one they are using. In an industry which is fast-paced and quickly evolving we cannot expect blockchain core developers of various platforms to integrate functions we require. This would only create a dependency, and thus a barrier to innovation. As such, we are releasing our own blockchain integration plan which meets the specialized use case of unbanking the world while building on top of every capable blockchain.

Blockchain technology is capable of offering globally accessible services and non-custodial business models which allows us to build efficient frameworks and services, decreasing friction in growing and servicing our user base. The growth of U.CASH in the future poses serious competition to traditional banks and with it, an expectation of resistance and conflict from the existing financial system. Deploying a blockchain agnostic as well as inclusive solution which is distributed results in a platform and financial ethos that invites participation and stakeholder involvement from users across many different blockchain ecosystems. Blockchain technology is the most powerful tool at our disposal today to build businesses that may initially appear largely disruptive but lead to greater accessibility by all.

5.2   All Blockchains Included, Not Just an ERC20 or Counterparty Token

After testing and developing solutions built on Counterparty & Colored Coins protocols on the Bitcoin blockchain and using the standard ERC20 token powered by the Ethereum blockchain, we quickly discovered limitations and problems. The lack of advanced smart-contracting capability on the Bitcoin blockchain (although some proposals and development from RSK are promising) and the high fees associated with the movement of colored coins (due to them being native Bitcoin transactions) were primary reasons we started exploring the Ethereum environment. Our research, and further development with Ethereum was inhibited by a misalignment of beliefs and values. Ethereum is attempting to satisfy multiple businesses, ideas, people and missions. Ethereum's development roadmap, including the switch to Proof-of-Stake, and the governance model, are at odds with U.CASH's requirements for a robust, secure and technologically advanced platform for global unbanking.

The requirement for certain capabilities, such as transaction "taxing" unverified users, fee subsidies for highly verified users, built-in governance for converters and users, as well as future requirements drives us to develop, deploy and manage a system that meets the demands of our mission and network beneficiaries. We cannot wait or expect other public blockchains with general

use cases to grow in capability to meet the niche demands of a global financial services network. U.CASH borrows ideas from multiple blockchain implementations and includes our own proposed updates (through the use of tokens) to offer a targeted, fully functional base layer that can be used to empower this network. U.CASH executes this while not relying on any outside party, or entity, whose requirements, motivations and needs may be totally different from ours.

U.CASH will integrate other blockchains by creating a pegged number of tokens for each blockchain represented. The total supply of pegged tokens created, across all blockchains, will equal to the token supply created from the IBO (see Section 9: IBO - Initial Bounty Offering) via a 1:1 pegging mechanism. For example, if 1 billion UCASH is bountied during the IBO, then only 1 billion UCASH is available to be used across all integrated blockchains at any given time. We ensure this by exchanging one blockchain network token to another at any time through the U.CASH platform, effectively rebalancing the token supply to keep it consistent. During the rebalance, our software automatically determines the blockchain that offers the most advantages at the time, and instantly settles the transaction in the background. It will recognize transactions where the capabilities offered by one blockchain has advantages over the other, advantages such as lower fees, effective smart-contracting, liquidity and more. From the user perspective, all they know is they received the best rate, fastest settlement, and access to the most advantageous capabilities available at that time. As a result, the UCASH token will increase in value as its demand increases for its utility to seamlessly access a variety of blockchains. Being blockchain agnostic and inclusive allows the U.CASH ecosystem to be independent of any one blockchain implementation, and also allows all of them to be accessed and used whenever beneficial, or required by its users. Also during the IBO period, for every 500,000,000 UCASH that is distributed, the value of the next 500,000,000 UCASH will increase thereby giving earlier participants an incentive to get involved and finish bounties earlier.

6.   U.CASH Blockchain Inclusion Plan

As a specialized network utilizing all capable blockchain networks, initially built to emulate functions of a financial services intermediary (such as a bank), U.CASH has general use case requirements already developed and deployed in some blockchains, but also needs to create unique new capabilities for itself.   After researching and testing dozens of blockchain implementations, source code and ideas, we have narrowed down our requirements to specific fundamentals necessary to build a robust, economically sound, secure and thriving ecosystem around the service offerings the U.CASH network provides.

Most of the protocols tested used Proof-of-Work (PoW), a distributed time-stamping process originally outlined in the Bitcoin whitepaper by Satoshi Nakamoto. PoW is energy and capital intensive, thus providing extreme security but also waste in the form of heat and computational resources. A common extension to the Bitcoin protocol modifies the consensus mechanism to either partial or complete Proof-of-Stake (PoS). PoS uses one's tokens as a stake, rather than

computational power and energy to participate in the time-stamping process. Although the efficiency gains are well documented, there have been criticisms of pure PoS based distributed time-stamping including "nothing-at-stake" and "costless simulation", describing the systematic instability resulting from stakeholders being able to generate alternatively timestamped histories with no cost to themselves. The discussion concerning the relative pros and cons of the two approaches is beyond the scope of this paper, but it should be noted that both approaches (as well as hybrid solutions) can be used to serve as the backbone of a blockchain network.

The U.CASH network combines the advanced smart-contract functionality of Ethereum, with the security and community of Bitcoin, with the anonymizing features of Monero and Zcash, as well the power of multiple other blockchains to provide a new ecosystem on which to build distributed financial services. The specifics of the integrated blockchains will be decided by feedback from peers and the community with U.CASh outlining the basic requirements and uses of the underlying blockchain assets on the platform. The launch of U.CASH introduces a business model to unbank the world for end users and its underlying blockchain infrastructure, U.CASH will continue to develop a community of partner providers, converters, miners, stakeholders and builders who will empower each other to build a better global financial future for all.

6.1   Compliance Regulations

One of the basic tenets of the traditional financial system is the requirement of Anti-Money Laundering (AML) and Know-Your-Customer (KYC) protocols for servicing clients. Compliance programs are enacted by each service provider according to their preferred risk levels as well as guidelines set out by their jurisdiction's regulatory and legal framework. These safeguards root out and prosecute nefarious misuse and abuse of the financial network, and protect consumers from fraud, scams, and other loss or accidental entanglement in criminal activities.

Public blockchains, due to their open nature, stand to be used freely with pseudonymity (or anonymity) for both positive and negative reasons with minimal consequences. We propose to place an effective "tax" on transactions originating from non-verified, or even low verified accounts. Verification will be carried out by money service business converters who, with their own keys, authorize transactions attesting to the authenticity of the verification process. These transactions include an encrypted digital copy of the identification used to get verified, after which it is dispersed on distributed storage systems which are, or become available in the future. Once a user is verified at different levels, they can access new types of services and gain access to lower transaction fees. These cheaper transaction fees will be subsidized by the more anonymous users of the network. We accomplish this by adding an additional data set to each transaction according to the originating account. The additional data will outline user's account verification level as well as the account address of the original converter who attested the verification of that user. A Hierarchically Deterministic (HD) wallet is created at the initiation of each user account which can then be verified by our MSB converters. This HD wallet (and all child wallets created from this)

would gain access to cheaper transactions on the network naturally, according to their verification level. This will lead to negative uses being pushed out to other networks outside of U.CASH which are cheaper and easier to use anonymously, or create an equilibrium in the U.CASH system where highly verified users may not pay transaction fees at all in some cases due to the "subsidy" provided by less or non-verified users.

6.2   Smart-Contracts

Smart-contracts are computer protocols that initiate, facilitate, verify, and/or enforce the negotiation and performance of a contract, or make a contractual clause unnecessary. Smart contracts often emulate the logic of contractual clauses and as such can be a digital representation of real-world deals and standards of doing businesses rooted entirely in the technological realm with use cases that have not been seen before. The large problem (or advantage, depending on how you look at it) with digital currency transactions is the irreversible nature of a transfer. If you send the wrong person (or wallet address) funds, it is unlikely that you will receive a refund from them. These sorts of issues can be mitigated by the use of smart-contracts on every transaction. A basic smart-contract running on our network would operate similar to how email money transfers work. A user starts by inputting the receiving party's credentials and amount of funds to send. From there, they include a question and security answer which the receiver would have to answer correctly before accepting the funds in their wallet. If the receiving party does not input the correct answer within the prescribed time period (i.e. 72 hours), the funds get returned to the sender. This can be accomplished on-chain, without the requirement of an intermediary, using specialized smart-contracts. This use case is one of many such capabilities utilized by U.CASH.

6.3   Multi-Signature Wallets

To execute trade transactions on the U.CASH network, users start by loading funds into their digital wallet. The wallet private keys will be held entirely by the end user. And once a transaction is initiated on the platform (convert to digital currencies, send funds, make payments, etc.) the funds are automatically converted into UCASH and subsequently loaded into a multi-signature (MultiSig) address wallet. U.CASH uses 2-of-3 multi-signature address wallets to hold funds while in transition. 2-of-3 multi-signature addresses require two private-key signatures to move funds from – both a user's and the recipient's (or converter, partner provider, etc.). This ensures that only the parties subject to the transaction have access to the funds at any point. Combining MultiSig with Smart-Contracts allows multiple use cases to be explored that allow for advanced capabilities on the network which are decentralized, user-friendly and efficient.

6.4   Decentralized Backups

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Any system that requires users to hold and secure their own funds must be able to provide backups for the user in case of device/account loss or compromise. We accomplish this using multiple methods, and ensure the backups themselves are highly secure.

All of a user's private key files are encrypted with their password before leaving their computer or device. Encryption is executed on the client side using Javascript providing protection from server side hacking. In addition to being stored locally on your computer or device, a user's encrypted wallet will be automatically synced with U.CASH servers (or distributed storage service) keeping it safe in the event of data loss. U.CASH never holds a copy of the password and thus is unable to view or spend user funds. Users retain full control of their funds and private keys, so their wallets can never be seized or blocked, and can be imported into any desktop or mobile digital currency clients preferred by the user. In the event the user loses access to their computing device, they can login online anywhere and get access to their funds using their identifier and password. However, If their password is forgotten then the funds become entirely inaccessible, so it is very important that passwords are saved in a safe place and/or remembered without loss. We educate and prompt all users to adopt high security safeguards by implementing a workflow on our applications that makes it easy for them to be as secure as a bank, from simple standards like 2 factor authentication to advanced smart contract security. We use industry standards as a starting point for encrypted data transmission, transaction messaging, private key storage, account backups, accessibility and more.

6.5   Integrated ISO 20022 Compliant Payments Messaging

To work seamlessly with the existing financial systems and accepted (or soon to be accepted) payments messaging, U.CASH has natively integrated payments messaging standards according to ISO 20022. In essence, ISO 20022 is a recipe for making financial messaging standards. To conduct their business, financial institutions exchange massive amounts of information among themselves and with customers. Such exchanges only work if the sender and receiver of a message have a common understanding of how to interpret this information.

Processes and value chains in financial services often cover different geographical and business areas. The proliferation of different messaging standards in the financial industry creates problems in automating these end-to-end chains. Two significant barriers exist to a common understanding of information shared by the people and computers involved in such processes: the use of different syntaxes (structure) and the use of different semantics (meaning).

By adopting ISO 20022 standards for transaction messaging, internally and externally allows U.CASH to plug into the existing financial ecosystem where and when required, and sets up the U.CASH platform for future interoperability involving advanced features.

7. U.CASH Services

The U.CASH software allows external providers and partners to plug into our system to offer their services on the platform. Using any internet-connected computing device, converters can provide services at their brick-and-mortar locations or in-person, and end users can access and manage their account anywhere at anytime. This enables U.CASH to offer traditional financial services such as loans, remittance and bill payments, but also allow brand new services to be offered as well.

Financial service capabilities powered by U.CASH falls into three categories: store of value services (loading & unloading funds, value locking, mobile recharge/refill/top-up), traditional financial services (online/offline commerce, sending/receiving funds, bill payments, foreign exchange, Visa debit cards, virtual Visa cards), and blockchain services (digital currency functions, chain certify, converter mode).Some of these service modules are currently active and/or being tested with our beta users. We have many more on the way.

7.1 Load & Unload Funds

To get started with using the U.CASH platform, users and converters must first load up their account with funds. Initially, our "wholesale converters" will provide the MSBs and other smaller converters with loading and unloading capabilities. In time, this service will get more decentralized and converters will deal with any other users on the system for this function if they choose to get funds off, or onto, the U.CASH platform. They will interact with those who either offer the best pricing, have the best feedback ratings (from other users), and/or are the closest in distance. Since every converter is able to offer whatever load method they want, there are multiple options for users to choose from.

7.2 Digital Currency Functions

Users and converters can load or unload Bitcoin (and other digital currencies) from the U.CASH platform at any time. They can also convert from fiat denominated digital currencies (CAD, INR, USD, EUR, etc.) to digital currencies (and vice-versa) when they choose. This essentially allows U.CASH to become the most functional digital currency "brokerage" or "exchange" on the planet, allowing users and converters to get into, and out of, the platform using cash, bank transfers, PayPal, Western Union and any other method our converter network supports. Since the U.CASH fiat balance is backed by actual value by (see more about this in the "Value Locking" section), when going from digital currency to a U.CASH fiat denominated digital currency balance you are essentially trading with other users of the platform without even knowing it.

7.3 Send & Receive Funds

The global nature of the U.CASH platform allows users and converters from any country to access and partake in the U.CASH economy. This all inclusive network is an answer to the "last mile" and "first mile" problems that plagues many fintech and traditional financial services companies. With U.CASH, converters and users can interact with each other anywhere on the planet to load/unload funds from the platform using whatever methods available in their local area. In-person transactions will let user go to a converter in one country, load funds onto their U.CASH balance, then send those funds to another user in different country (with minimal FX and user-to-user fees). It will also let the other user find a converter in their country to withdraw cash, or send directly to their bank account.

Sending money between users will require a phone number (and/or e-mail address) as well as a one time password. Payments are made via a smart contract powered transaction. The sender must set a QUESTION and ANSWER alongside the recipient information. The funds are then sent to the smart contract where they act as an escrow. The receiver must accept the payment and type in the correct answer to the question. Funds are then released into their account from escrow. The sender is notified that the payment is complete. If the escrow funds remain unclaimed for 72 hours, they are refunded to the sender using a CheckLockTimeVerify (CLTV) type of function on Bitcoin or other such similar method on another blockchain. This expiry time for the transaction can also be customized by the sender. These smart-contracts were created to provide greater safety when users are using our platform and allows for checks and balances when sending or receiving funds.

7.4 Loans & Credit

Our loan & credit capabilities allow existing lenders, such as term-loan providers, payday loan companies, alternative lenders as well as traditional loan businesses to compete for, and offer loans to other users on the U.CASH platform. Once a loan application is received, the basic loan request details are shared with local area loan providers (our converters offering loans), and they can choose to provide the loan to the user, or not, depending on the requirements. The loan originator (the converter) and the loan receiver (the user) deal directly with each other but the management of the loan is done on the U.CASH platform.

7.5 Bill Payments

Our integrated APIs (Application Program Interfaces) allow us to connect to payment processors, merchant solution companies, debit / credit card providers, bill payment gateways, Bitcoin companies and others. Our country by country partnership approach allows our converter and

user network to have access to a wide variety of choices and price ranges for any group of services. Bill payments on our platform allow users who already have a U.CASH balance to make payments to many companies in their region.   These include utility service providers, telecommunications companies, internet/broadband networks and many others. We also enable converters to provide in-person services.

7.6   Foreign Exchange

Traditional foreign exchange providers can plug into the U.CASH platform and offer loading and unloading into whatever foreign exchange currencies they provide and/or use the platform to manage all their retail foreign exchange transactions. In the future, the U.CASH platform will enable all online users to hold any fiat digital currencies on their U.CASH balances without fear of costly foreign exchange fees for moving between currencies. This is possible because unlike traditional forex companies, U.CASH backs each currency balance with the same value in assets using value locking. A new value locking contract is issued every time a trade occurs.

7.7   Mobile Recharge / Refill / Top-up

In many countries, mobile recharge (or refill, top-up, etc) service providers are small retailers with locations that provide instant recharging on a user's mobile phone number. As almost all services in these countries are pre-paid (you must pay for minutes before using them), this is an essential need (almost like a utility) for these populations. Mobile recharge service providers are already familiar with pre-loading their own wholesale accounts to even start offering services, and U.CASH is a natural extension (and entire upgrade) to their existing systems. Our converters can earn fees on all transactions they provide in-person and do so on a new intuitive platform. Converters only need to hold a U.CASH balance in order to offer this service. Users can charge their mobile minutes conveniently right from their app when funds are available.

7.8   Asset Management

Our innovative asset management options allow users (and converters) to access Bitcoin and other digital currency based growth opportunities.   U.CASH lets users get into various decentralized cryptocurrency funds, systematic conversion plans (where every certain period of time, a contract executes to convert an amount of your U.CASH balance to Bitcoin at the market price at that time), or even Initial Coin Offerings (ICOs) and miscellaneous tokens. U.CASH will eventually integrate asset exchange capabilities (above and beyond Bitcoin) to become the ultimate cryptocurrency & blockchain management platform for users (and converters) of all types.

7.9 Value Locking

Due to the unique issues arising from trying to lock value in a digital wallet for users without having to directly hold corresponding fiat currencies in bank accounts, we have developed multiple strategies with varying fees and capabilities to offer to our network. We accomplish Value Locking through smart-contract based locking, U.CASH powered locking, and token based locking to offer clients security, redundancies, as well as options according to their verification level.

Smart Contract Based Locking - Smart-contract value locking can best be described by providing a simplified technological answer, and through examples. Smart-contract based locking is a form of scripted automatic updates to multi-signature wallets that maintain a digital currency balance (such as Bitcoin) that is equal to the U.CASH fiat currency value (ie. USD, CAD, EUR, INR, etc.) the users of the platform are locked in at. Liquidity providers guarantee certain amount of funds in real-world financial contracts with U.CASH Inc. and its users, and U.CASH allows for these providers to participate in the long-term value increase of digital currencies, without having the risk of holding the actual digital funds themselves. Hundreds of thousands of wallets are maintained for multiple currency pairs (everyone that exists on the planet that users want), as well as combinations with other asset types to perform these value locking (and unlocking) actions for users & converters. A secure smart-contract enabled environment maintains the values of the U.CASH balances and makes sure the converters, users, liquidity providers, and other parties have direct secure access to their digital fiat currency tokens and the backed digital asset.

U.CASH Powered Locking – U.CASH will participate in the buying & selling of other digital assets as well as holding balances with its partner exchange network to provide a part of the value locking guarantees for certain users. These users will have to be highly verified, come from humanitarian causes, large enterprises or institutions, and will only be able to access this service after a verification process.

Token Based Locking – U.CASH Inc. in partnership with external service providers has enabled the capability to hold non-blockchain based digital tokens representing fiat currencies. These digital tokens will be backed using Bonds, and/or currency balances in accounts with the beneficiary being the token holders. U.CASH Inc. will provide initial liquidity of tokens and provide fiat currencies to the partner providers who will then originate the token value. U.CASH Inc. becomes a broker in this setup providing verified U.CASH users access to a value backed token to use on the network.

7.10 Chain Certify (Blockchain Notarization)

Chain Certify is a brand new function which essentially "notarizes" your documents or messages on the Bitcoin Blockchain and saves those documents (or messages) for later retrieval if required. Currently your documents can be stored by you, or on our servers if the user is concerned about losing the original. We plan on decentralizing the storage of these files using either a version of MaidSafe, Storj, or our own implementation depending on the benefits and/or problems that we are receiving. On top of "Chain Certifying" your document, access to our legal converter network also allows users to traditionally notarize their documents by an accredited lawyer or other legal professional in a user's local area.

7.11   Visa Debit Cards

The U.CASH visa debit card will be available in select countries when we are ready to launch the system with maximum impact. The debit card can be loaded online using a user's U.CASH balance or in-person with a participating converter. The advantage of having debit cards in a system such as U.CASH is that it allows legacy technology and point of sale terminals to interact with a card that can be loaded using a user's U.CASH balance. Loading only takes a few minutes and users can check the balance of their card at any time by logging into U.CASH. In each country we operate, we partner with financial services providers to directly offer card services to our users & converters.

7.12   Virtual Visa Card

The U.CASH Virtual Visa card enables users & converters to use their U.CASH balances to load a digital representation of a Visa card and use it for online payments and in-person where Visa NFC (Near Field Communications) tap to pay is enabled at retailers. This is currently only possible on the U.CASH mobile apps. This ability greatly increases the usefulness of U.CASH by allowing network users to access an additional powerful payment option built on top of existing infrastructure. Virtual Visa payments can be made at millions of online and in-person retailers and gives access to an unlimited amount of freedom to our users. The power to offer Virtual Visas is provided by partner financial services providers such as payment processors and merchant gateways which can plug-in and offer services to users but may not be available in all areas.

7.13   Converter Mode

Any user can activate converter mode and start offering services on the U.CASH platform. Verification levels for users (and converters) as seen in the "Verification Levels" section, will dictate the transaction and trust limits. Higher verification levels paired with higher feedback will lead to more users wanting to transact with that converter. When converter mode has been activated, the converter subsequently gains access to a range of value added functions including the ability to

post "ads" detailing their services and fees, a transaction dashboard (to see active and historic transactions with users and other converters) and additional capabilities. Converters can offer online or in-person transactions with multiple methods of payments.

7.14   Loyalty Cash

Loyalty Cash is our loyalty points program. Loyalty Cash is awarded in the form of UCASH to the user's account and can be earned by using services provided by converters, or online on the U.CASH platform. You can also earn back a portion of your fees spent on platform usage as Loyalty Cash and similar to using your U.CASH balances, you can pay for other services on the system including bill payments, remittance, loan repayment, etc.

7.15   Online Shopping

One thing our users and converters have asked us most for is the ability to shop online directly using their balances on the U.CASH platform. To design this module we looked at many other online shopping platforms and providers as well as mobile money wallets (such as PayTM, AliPay, etc.) that were already offering integrated shopping experiences. We created our own unique experience using our research and the existing infrastructure of the U.CASH system that best reflected our decentralized approach. Any converter can input their items for sale and can state if the item is for sale online, in-person or both. They can set their pricing as well as shipping costs, and have the items be available for other users to buy from them. This is integrated with our rating feedback system.

8.   Currencies and Assets Supported

U.CASH has the goal of supporting almost every utilitarian fiat currency, digital currency, and assets that it possibly can. U.CASH is meant to be universal platform for the movement and usage of user funds but also as a repository for storage of multiple digital asset types. Initially, the primary drivers of the ecosystem will be the native fuel UCASH, Bitcoin, Ethereum and major fiat currencies. Eventually as converters become available in other countries and more integrations are made on the platform for alternative digital currencies and assets; these will drive usage of the platform as well.

9.   IBO - Initial Bounty Offering

The distribution of the UCASH token will be accomplished using an innovative new model. Users can acquire tokens by completing bounties set out by U.CASH to build out the network. U.CASH

choose the various winners of bounties (where applicable) and administer the distribution of bounties. We plan on moving decision making to a model whereby feedback can come from platform users and UCASH holders. Building a system for managing this will be one of many such bounties. Benefactors are individuals, companies, and other organizations who can purchase bounties directly and thereafter have the U.CASH manage and complete that bounty using their own resources.

There is also a minor distribution that is awarded to the founders and initial launch team for all the work and efforts to get the U.CASH mission this far. This distribution will be done over an extended period of 3 years to incentivize continued efforts.

Users who register and verify their emails and mobile numbers will be able to claim bounties as well as acquire a limited amount of UCASH additionally using BTC or ETH. This will be available up to the maximum of bonus bounty rewards offered per stage in the Initial Bounty Offering period.

9.1   IBO Period & Stages

The distribution of the UCASH tokens will be done over a 30 day Pre-IBO period for early contributors, followed by a 120 day IBO period for the general public. Some bounties will expire within this time frame, but some will be open indefinitely. How do we limit the total amount of UCASH tokens paid out over time to an indefinite time frame bounty? On those, we give a small percentage of the total remaining UCASH allocated towards this bounty towards the claimant. For example purposes, if 100,000,000 UCASH total is allocated towards User Sign-Up bounties, then every user who signs up may get 0.03% of remaining allocated UCASH as a reward. This means, the first user who signs up with their email address and verifies their mobile number will gain 30,000 UCASH (100,000,000 x 0.0003). The 2nd user would be rewarded 29,991 UCASH (99,970,000 x 0.0003). The 3rd user would be rewarded 29,982.0027 UCASH (99,940,009 x 0.0003) and so forth. We call this decreasing, infinitely trending towards 0 bonus reward the *In-Deflationary* Bounty as with the growing utility and usage of the U.CASH network, the UCASH paid as rewards will always be worth claiming. The stages of the UCASH bonuses will be changed every 3 days for the 120 day IBO period. These bonuses will decrease on all bounty claims during each stage. The initial bonus UCASH rewarded will be on top of stated bounty. This bonus will decrease by a certain percentage every 3 days until the bonus reward is 0%. All indefinite bounties will stay at the stated reward amounts and be rewarded for each claim. Single Bounties not completed in the IBO period may be continued at the stated reward until such a time they are claimed.

10.   How U.CASH is Structured

The first business to utilize the UCASH technology ecosystem and spawning it and its native token will be the corporate entity U.CASH Inc. which has its headquarters primarily based out of Toronto, Canada. The founding team behind U.CASH has researched, developed, deployed, tested and brought to life proof-of-concepts, and onboarded early converters, financial service partners and users. We at U.CASH went ahead and structured our organization with an eye to the future when virtual currency business regulations do come into effect in jurisdictions worldwide and plan on complying with all applicable rules and regulations. Our team members, having engaged with multiple levels of government, regulatory bodies and financial entities over the years is confident Canada will continue to remain a positive environment to build businesses which use blockchain innovations in in a responsible manner. Our initial partner providers are based out of Canada as well, allowing us to interface with them efficiently under a favourable environment to launch the network before looking at diversifying the structure into multiple jurisdictions.

10.1   UCASH (UCASH) Token

The UCASH (UCASH) Token is the ecosystem native fuel. It is used to pay for services in both retail, online and blockchain transactions. UCASH can also be converted to cash or a multitude of digital currencies. UCASH must be pre-acquired (or instantly converted to) before performing transactions on the network. Ecosystem participants take UCASH in exchange for services as well. As such UCASH becomes a network wide accepted form of compensation which will be utilized in exchange for an ever growing amount of use cases globally.

10.2   U.CASH Inc.

U.CASH Inc. is the first among an ecosystem of businesses building on a new blockchain enabled foundation in order to offer their own services to users on the network. U.CASH Inc. will focus on building out end user services, applications, converter networks and help increase the use cases of the the UCASH native token and its ecosystem. We will use the native token inside its applications for smart-contract functionality, transactions and other requirements where necessary. Because of this, we see the value of the native token going hand-in-hand with the growth of of the ecosystem services, converters and users. Although other digital assets will be widely supported, transactions will all require the use of UCASH for platform access, security, smart-contract enabling and instantaneous access to various different blockchain capabilities, leading to growing use of the UCASH token. U.CASH will be the first entity building on top of the UCASH token, but it will definitely not be the last. As a for-profit social enterprise, U.CASH will function in a way that both benefits the ecosystem, its users, converters, shareholders, and mission, while also partaking in humanitarian and social efforts globally to help the world. Its success is in itself tied very closely to the UCASH token and its surrounding ecosystem, and together will prove a model in showcasing the capabilities of not just our technology, but of the potential types of services that can be enabled by community collaboration and innovation with integrated incentivization by way of a native fuel.

11.   The Main Players

Due to the requirement of various parties to ensure the success of the U.CASH network, we have developed a system which incentivizes and promotes all parties to work together to benefit all involved. We outline the responsibilities and rewards each type of "player" in our network is privy to and how they fit into the bigger vision.

11.1   U.CASH Team

The founding team behind U.CASH has researched, developed, deployed, tested and brought to life proof-of-concepts, and onboarded early converters, financial service partners and users. The founders will continue to play an integral role in the network until such a time that a growing number of people can overtake certain responsibilities that are directly connected to the development of the underlying native UCASH token, and the surrounding community. The team will continue to grow and market the first application (U.CASH) built on top of the UCASH technology and philosophy. It will bring on end users and converters as well as onboard partner providers and innovate in offering unbanking services to the world.   With the launch of the U.CASH network, various members of the team will be brought on to grow our team depending on skill, experience knowledge and enthusiasm requirements.

11.2   Partner Service Providers

At launch of the U.CASH network, we will be offering services with a limited set of partner providers. They will enable access to bill payments, mobile recharge, debit and virtual visa cards as well as other services to our end users and converters. Future partner providers will come online to offer additional functionality and services in their local regions. These include payment processors, remittance services, bill payment services, telecommunication companies, financial institutions, money service businesses, loan providers, digital currency exchanges, mobile recharge providers, e-commerce portals, point-of-sale systems, foreign exchangers, notary services, merchants and much more.

11.3   Converters

Converters are the physical backbone of the U.CASH network and exist everywhere, both online and offline. They provide loading and unloading services to end users in a variety of methods, in-person user verification (in the case of MSBs) and other services. There are multiple types of converters in the U.CASH network:

The content of the whitepaper is continually updated with new information

1) **Master Converters** – Provide U.CASH liquidity to other converters in local areas or countries as well as offer financial services. Master converters will initially be large money service business partners and other highly capitalized entities, but we will expand to include other financial institutions over the coming months and years.

2) **MSB Converters (Money Service Businesses)** – Single store, or multi-store brands which offer traditional money service business activities as well as online companies whose user base could benefit from U.CASH.

3) **Retail Converters (Storefronts)** – Businesses who have store-front locations that want to offer U.CASH services. They can be any type of business including convenience stores, computer stores, cell phone shops and more.

4) **Individual Converters (Any Users)** – These are individual users that want to earn extra income by providing basic U.CASH services to people in their neighbourhoods or online.

5) **Mobile Converters** – Will provide services by coming to your location. The mobile converter could also be an MSB, retail or even individual providing U.CASH access.

11.4 End-Users

Users of the U.CASH network will initially be those looking to quickly load funds onto the platform to participate in the digital currency economy. Because U.CASH is the quickest and cheapest option to get fiat currencies converted to digital currencies using cash, there will be a strong user base interested in getting into U.CASH. As the usage of U.CASH applications and software services increases, users will transition to using their UCASH balance to pay bills, or send and receive money from around the world. U.CASH will initially derive most of its volume from the aforementioned use cases, but will diversify as other value added financial services are deployed.

U.CASH solves the first and last mile problems, the friction caused by regulation, associated with most financial technology enterprises by bridging the gap between fiat cash and digital assets. As an exciting new alternative to traditional banks and other financial institutions, U.CASH brings much needed services to anyone with internet access and a computing device. Identification is not required to get started in the system because U.CASH in itself allows for users to get started with a brand new digital identity with initial registration. This digital identity can then be updated with real world verification to augment their service access and/or get reduced fees. Users will eventually start using the U.CASH platform for travel purposes, digital commerce, loans and much more. Building the basic infrastructure of converters and users is the current priority as that will serve as the foundation for a truly global peer-to-peer financial services network.

11.5 Ambassadors

U.CASH Ambassadors are our supporters and believers all over the world who help bring alive the U.CASH mission to their geographical area or industry. Ambassadors' (individuals, groups, organizations, government, and more) level of involvement is up to them, but must be responsible for certain duties as outlined by the U.CASH charter (to be released in the future). High-performing, impactful or growing ambassadors can get grant funding administered by U.CASH through its UCASH fund towards projects, events, marketing and more. Ambassador responsibilities includes converter marketing, partner sourcing, user marketing and many other roles.

11.6   Bounty Participants

The initial distribution of UCASH via Initial Bounty Offering (IBO), allows the most amount of people to fairly participate in the crowd-distribution. which will be the primary layer and network fuel in the functioning of the platform. As UCASH is the primary layer and network fuel that powers transactions and advanced functionalities, distributing this fuel to the early believers and supporters will help grow the network during its infancy and will promote adoption even in remote areas of the world. Bounties will range from simple user tasks, such as registering and verifying user accounts, to marketing U.CASH via social media posts, to large-scale time-intensive projects like developing products and software for the network. Varying skillsets and resources will be required to truly make U.CASH a globally impactful network, and the IBO model ensures that everyone has an opportunity to participate and benefit. Also, increase of value of the tokens during the IBO period will ensure that earlier participants get bonuses compared to later participants.

> 1)   **Bounty Hunters** – These individuals (freelancers, competitors, etc.) will primarily be focused on claiming as many bounties as possible. These bounties could include highly advanced requirements such as software apps or integrations, but could also include social media marketing, localized projects and more
> 2)   **Users** – Users will claim bounties by just signing up with U.CASH during the bounty period as well as completing various actions including getting verified, linking their social media accounts, or posting about U.CASH right through the apps
> 3)   **Benefactors** – We have provided an option for benefactors (individuals, companies, sponsors, etc.) to pay for bounties directly and thereafter have U.CASH manage and complete that bounty using donated resources. To determine the benefactor bounty payout, we have calculated and received quotes for the real-world costs of completing the bounties and translated them to the corresponding UCASH amounts.

12.   Consortium

U.CASH is creating a consortium comprised of various financial service entities that will benefit from cross industry collaboration, technological upgrades and capabilities, and access to an entire

new user base. These entities include money service businesses (both retail brands and alternative providers), payment processors, remittance companies and other traditional service providers. The consortium will come together to provide a unified experience for end users through a common platform equipped with standards and best practices. Standardized smart-contracts and transaction solutions will greatly increase the ability for smaller businesses to join together and develop a large mesh of infrastructure that will be superior to those provided by large, traditional centralized solutions. The global nature of the U.CASH platform combined with integration of multiple assets, services and capabilities means that MSBs and other companies can interact directly with each other and provide value added services without the need for a third party plugins. The U.CASH consortium will enable many parties to connect and join together to be stronger as a unit than they are individually.

13.   Conclusion

U.CASH is built to achieve mass adoption and usability right from the get go. In this paper we have explained the technical and business solutions that give end-users and other parties previously impossible opportunities, and pave the way for rapid adoption of digital currencies and blockchain technologies. Given a systemically, technologically, economically and socially sound foundational layer, users, converters and other entities can come together to access or provide services on a global scale. The unique mechanisms proposed for bounty distribution of the native fuel, and the business model itself are all parts of a larger movement that will bring unbanking to the world. Let the true mission begin.