FoldingCoin Technical White Paper

Mine Medicine, Not Hashes

Robert Ross - Administrator, Founder
rross@foldingcoin.net

Reviewed by:
Joshua Adkins - Assistant Administrator
Jeff Moreland - .NET Software Developer

Goals of FoldingCoin Inc.

Folding Coin Inc. was created to grow the distributed computing network working towards finding cures for diseases, by introducing a profit motive for volunteers in Folding@home (FAH).

FoldingCoin Mission Statement

FoldingCoin Inc.[1] looks to harness computational power used in alternative digital currency blockchains to be better used for medical and scientific projects with goals of solving world problems. In doing so, FoldingCoin Inc. looks to compensate participants with cryptocurrencies built on Counterparty.

FoldingCoin Inc. Summary

- FoldingCoin Inc. is an Indiana Not-For-Profit Corporation[2] formed under the Indiana Nonprofit Corporation Act of 1991.
- FoldingCoin Inc. distributes cryptocurrencies (tokens) to affiliated participants on the Stanford University Folding@home network. The tokens are awarded proportionally, according to that participant's Folding@home credits.
- FoldingCoin Inc. looks to redirect what some consider to be wasted computational power from alternative cryptocurrencies to Folding@home participants, and to incentivize those who compute on non-profit distributed computing platforms to encourage continued support.

---

[1] FoldingCoin Inc. http://foldingcoin.net/
[2] Indiana Non Profit https://bsd.sos.in.gov/publicbusinesssearch

Table of Contents

Required components of FoldingCoin

Digital currency Mining

Cryptocurrencies are digital systems (protocols) for exchanging value between participants on a decentralized computer network. [Bitcoin (BTC)](#)[3] is the most famous and widely adopted digital currency. Most cryptocurrencies use hard-to-solve cryptographic puzzles called "Proof of Work" to secure the operation of the network. The process of verifying the cryptographic solutions is commonly referred to as "mining". Bitcoin uses the SHA256 hashing algorithm for Proof of Work.

Bitcoin introduced a "reward" system, where the miner who solves a block is awarded a small amount of the digital currency. This reward compensates the miner for contributing their hardware and electricity to securing the network. Finding the solution of a block is a vital operation to allow distributed consensus, and adds the block to the blockchain.

In the early days, one could mine a decent amount of Bitcoin blocks on standard computing hardware, most notably CPUs (central processing units) and GPUs (graphics processing unit). The phrase "standard hardware" refers to CPUs and GPUs found in everyday consumer and corporate PCs. The energy consumption of standard hardware in comparison to ASIC (Application Specific Integrated Circuit) hardware is not as efficient.

In 2013, ASIC mining hardware, specializing in SHA256, began to dominate and Bitcoin mining was no longer profitable on general purpose computers. It was around this time that hundreds of alternative cryptocurrencies released blockchains to try to compete with Bitcoin. Many of these "Altcoins" used standard computing hardware from miners that had previously mined Bitcoin before the ASICs took over. Many used the Scrypt algorithm instead of SHA256. This was to allow the continued use of general purpose computers to mine the Scrypt coins as ASICs could only mine SHA256 coins. Many former Bitcoin miners moved to Scrypt coins. In early 2014, Scrypt ASICs appeared, and once again mining was no longer feasible to the non-specialized CPU/GPU miner.

Many believe that some altcoins are a problem because of the following reasons:

- The amount of energy used to hash these blockchains is considered by many to be a vast waste of energy
- These coins can be underdeveloped or become abandoned
- They can end up being a scam coin
- Traded as a "pump and dump" coin
- Bring no new great innovations to Bitcoin itself

Scientific Distributed Computing

Digital currency mining was not the first application for distributed computing. The Internet emerged as a consumer phenomenon in the late 1990's and early 2000's. Soon after, scientific investigators found applications for distributing massively parallel computing jobs to individual consumers. Consumers could install software provided by the scientific investigator on to their

---

[3] Bitcoin - https://bitcoin.org/en/

own computer and leave the machine powered on even when not actively using it. The scientific investigators would use the leftover computing cycles to assist in solving their scientific problems.

An early example of such a system was [Distributed.net](#)[4] founded in 1997. The initial problem they investigated was the mathematical principle of the "Golomb ruler". Once the 27 and 28 mark Golomb rulers were solved, they moved on to trying to break the RC5-72 encryption standard. They remain active and expect to take 200 years to exhaust the RC5-72 key space.

In addition to Distributed.net, two other popular platforms have dominated the grid computing and distributed computing communities: [Berkley's BOINC](#)[5] and [Stanford's Folding@home](#)[6]. These systems have gained mass adoption since beginning in the late 90s and early 2000s. Between them, these networks have thousands of participants, combined contributing millions of computational FLOPS. Today it can be seen that these projects are significantly larger than any collection of supercomputers.

Folding@home

Stanford University started the Folding@home project (FAH) in October 2000. The project runs computational algorithms, to simulate the way protein molecules fold and misfold in the body. Protein folding is central to healthy biological processes. Cancer and Alzheimer's (among others) are well known medical conditions that arise when proteins misfold. Scientists and medical researchers alike investigate why the proteins fail to fold properly and how medicines can be designed to correct the process. Stanford provides the data output from the FAH program to these researchers in order to help understand how to solve the misfold issues.

Simulated protein folding is a problem that can be solved by many computers working in parallel. When a donor joins the FAH project, they register an account, install a program, and FAH begins downloading "work units" to their computer. Work units are "bite sized" protein folding problems that the FAH researchers want to learn more about. From this research many scientific papers have been written and can be [found here](#)[7].

As a donor finishes a folding problem and submits the solution to FAH's server, they are rewarded with "points" and then are assigned more work units. Modern day computers have CPU speed, memory capacity, and graphics performance that would have been hard to imagine years ago. The FAH software takes advantage of all this newly developed hardware.

The faster one's computer completes work units, the more "points" one can earn. FAH's [public statistics system](#)[8] keeps "score" of all work submitted and points earned by all donors. But these points carry no value themselves, beyond "bragging rights".

Tokens and User Created Assets

In 2014, many extensions to the Bitcoin protocol emerged, commonly referred to as "Bitcoin 2.0"

---

[4] Distributed.net http://www.distributed.net/Main_Page

[5] Berkley's BOINC http://boinc.berkeley.edu/

[6] Stanford's Folding@home http://folding.stanford.edu/home/

[7] FAH White Papers http://folding.stanford.edu/home/papers

[8] FAH Team and Donor Stats http://fah-web.stanford.edu/cgi-bin/main.py?qtype=userstats

systems. Bitcoin 2.0 systems use the distributed blockchain technology pioneered by Bitcoin to extend the network in novel ways that were not envisioned by Satoshi Nakamoto and the early Bitcoin Core developers.

Counterparty[9] is an example of a Bitcoin 2.0 system that allows users to create their own assets, along with a complete suite of additional financial tools, within the Bitcoin blockchain. A user or project with a unique value proposition can use Counterparty's open source technology to create a digital currency asset. The user created assets are often generically referred to as "tokens" or simply "assets". A digital currency project can use and distribute the tokens in support of their value proposition in nearly any way they see fit.

Since Counterparty is built inside of the Bitcoin blockchain, it requires a Bitcoin transaction for all actions taken with these assets. This is accomplished by inputting the data from these assets in the 140 bytes of unused data that each Bitcoin transaction allows.

Token Distributor System

FoldingCoin needs a way to distribute a large amount of Counterparty TXs, rather than distributing manually to each participant. FoldingCoin has partnered with Tokenly to bring the Merged Folding Distributor that allows for an easy way to distribute FLDC and other Tokens. The distributor will read the FAH statistics and create a distribution address that allows for FLDC (or other tokens) to be batched together and sent out. More information later in the document.

Genesis of FoldingCoin Inc.

FoldingCoin Inc. created an asset with a "Proof of Fold" concept to verify contributed computational power. Participants contribute their cycles to medical research on the Folding@home platform instead of a "Proof of Work" algorithm on a traditional Altcoin blockchain. This makes the energy to receive the token reward go towards something more meaningful than an alternative blockchain to Bitcoin's blockchain. Thus the power is not considered wasted, as it goes towards medical research.

Since Counterparty assets share the Bitcoin blockchain, this allows the legacy mining equipment from Altcoin mining to be redirected towards medical research, since the Bitcoin miners are already covering the security and hashing rate of the Bitcoin blockchain.

Creation of FoldingCoin

FoldingCoin is a cause coin built on Counterparty and distributed on a schedule. FLDC is given to those that donate computational cycles to Folding@home and proportionally divided based on their individual contributions.

The ease of both creating Counterparty assets and accessing the FAH public stats allows for a manually computed proof of concept. The distribution method is a set of scripts that can be run from a server. With the addition of the Tokenly Bitsplit distributor, FLDC is automatically distributed to any Counterwallet addresses without having to manually send them out one at a time. Due to higher BTC transaction costs and additional Folders joining the network, the FoldingCoin project began to distribute consistently on a monthly basis instead of a daily basis

---

[9] Counterparty http://counterparty.io/

beginning in 2016.

FLDC Token Details

Only 1 billion tokens created

This is a hard cap. The asset has been locked and there is no way for anyone to ever issue more of them due to the restraints that the Counterparty system has put in place upon locking an asset.

100 million tokens will be designated for development rewards

The FoldingCoin team has designated 100 million FLDC to be paid to those who contribute necessary work and code to the project based on the project's needs. This is constantly updated and can be found on the [FoldingCoin website](#) what we have paid.

Tokens will be distributed according to a half-life schedule
The Half Life will proceed as follows:

- Initially of the 900,000,000 FLDC, daily distributions are 500,000 FLDC
- Once 450,000,000 FLDC are distributed, daily distribution becomes 250,000 FLDC
- Once 675,000,000 FLDC are distributed, daily distribution becomes 125,000 FLDC
- Once 787,500,000 FLDC are distributed, daily distribution becomes 62,500 FLDC
- And so on. This halving occurs every 900 days

There are no fees for FLDC Distributions

There will be no service fees for FLDC Distributions. Stats on who was paid will be updated to the website regularly to keep the issuer in check and to insure that all payments have been received. Distributions will continue so long as the FoldingCoin project has the funds to maintain the payments. Donations are raised to keep the project going.

Won't ASICs just attack this?

In order for an ASIC to contribute folding power to earn FLDC, one would have to get a hold of an Anton SuperComputer which is an ASIC specifically for protein folding and this doesn't seem possible anytime soon. And if it was to be created, this would help bring more computational power towards FAH, so can only be a good thing. Another concern is the ability for one to run an Amazon EC20 instance for Folding. Once again, this will only help to bring more computational power to the FAH platform, thus furthering the mission. It is good to note, that Amazon EC20s are very expensive and if one is to run one, they may not see a profit, or very little profit, so there is not much of a personal incentive to run FAH on these.

FoldingCoin Core Products

In order for FoldingCoin to work, we have developed various products that all work together to help promote and bring more computational power to the FAH network. The Core products laid out in this section are essential for keeping the FoldingCoin project working.

FoldingCoin .NET Download Service
Miguel, insert description here

JavaScript Download Service

Tyler and Jared, insert description here

Merged Folding Distributor

In order for FLDC to be distributed, we have partnered with Tokenly to provide a distribution system called Merged Folding. Tokenly runs a copy of our download service not only to serve as a way for the Merged Folding Distributor to calculate the distribution, but as a redundant copy of our download service so we have a backup to compare our stats with for accuracy.

The Merged Folding distributor is an all in one solution that allows us to create a distribution address that will send out the amount of FLDC that has been earned by the participates based proportionally on their FAH work. One the distribution is executed, a Counterparty enabled address will batch all the required FLDC payments and send them out to the network. This makes it so we do not have to manually send out FLDC one by one to participants.

The system is also open for other project to use as well. Any project who has a token on Counterparty is able to distribute to our Folders based on various parameters that can be set within the Merged Folding Distributor. FoldingCoin Inc uses the method of evenly distributing FLDC based on work, and other projects can use this same distribution method. However, we have created the ability to specialize the distribution in various ways. The following options are available on the distributor:

1. **Token Name:** This is the Counterparty token name. Example: **FLDC**
2. **Total Tokens to Send:** This is the amount of tokens you wish to send (this number you may want to change depending on the following parameters)
3. **Calculation Type:** There are 2 options here:
    a. **Even -** The above number in section "2" will be evenly distributed among Folders based on the parameters you set in the following fields. This would be useful for a large amount of tokens to distribute. Example: FoldingCoin uses this to distribute out to our Folders since we give proportionally to all Folders based on computational power.
    b. **Static -** The above number in section "2" will be given statically to each Folder based on the parameters you set in the following fields. This would be useful for giving each Folder a small amount of you token. Example: if you want all Folders to only receive 1 Token unit no matter what, you would set section "2" to 1 and set the Calculation Type to static.
4. **Distribution Class:** There are 4 options here:
    a. **All Folders -** This option will distribute your tokens to all participating Folders within the dates you set in the following section. Example: FoldingCoin uses this to distribute FLDC, as we include all Folders in the designated time frame.
    b. **Minimum FAH Points -** This option allows you to only include Folders that have reached a certain amount of FAH points within a given time frame. Example: if you want to only give your token to those that have earned 100,000 FAH points in the time frame, only those who have at least that amount would be included. Selecting this option will create a new field following this one:
        i. **Minimum Required FAH Points (New Credit) -** Simply set the amount of FAH points you require someone to have to be included here.

      c. **Top Folders -** This option will allow you to only include the highest earning Folders in a given time period. Example: if you only want the top 10 Folders, or the top 100 Folders, you would use this option. Selecting this option will create a new field following this one:

         i. **Amount of Top Folders to Select -** This field you will set to the amount of top Folders you wish to pay. If you select 25 for example, the top 25 earners will only be included in the payout.

      d. **Random -** This option will allow you to pay only a set amount of Random Folders. For example, if you wish to give your token away to 25 random participants, you would use this option. This is a good option for doing raffles. Selecting this option will create 2 new fields following this one:

         i. **Amount of Random Folders to Select -** Select the amount of random participants you want to include in the distribution

         ii. **Weight chance by FAH points? -** Check this box to give everyone a chance proportionally based on their FAH points. For example: if you select this option, those who have more FAH points, have a higher chance of being picked randomly. Leaving this field unchecked, will give all participants an even chance of being selected randomly regardless of points.

5. **Folding Start Date:** Select the day that you wish to be the start of your distribution time frame.

6. **Folding End Date:** Select the day that you wish to be the end of your distribution time frame. Note, if you want to do a single day distribution, this would be the same date that you put as the Start Date in section "5".

7. **Custom Miner Fee Rate:** Setting this will determine the priority the transactions will be placed in the mempool. The higher the fee, the quicker the confirmation.

FoldingCoin Key Products

To help further engage the community and make it fun to be a part of, there are a various amount of community needs that need to be addresses to keep interest in the project going. The Key products are not essential in the functionality of the project itself, but rather help bring additional interest in the project. By making FoldingCoin more then just profitable to do, we need to add utility products to engage the community.

Statistics page

One of the things that Folders love is the ability to see how much they have contributed to science over a period of time. There is also a friendly competition side of the project in which Folders compete over each other not for the most FLDC, but rather the most FAH points that have been awarded to them. The FAH community has always relied on the official Stanford stats, and another popular third party statistic gathering site to track their contributions. However these sites are lacking in features that can be more geared towards Folders earning FLDC and other cryptos.

We need to add the stats page section here when it is completed*****

Loyalty Program

Many Folders do not necessarily have the largest folding operation, and therefore do not earn as many FAH points. However, they fold day after day because they truly care about the mission of the project. Some larger folding operations only care about the profit, as FoldingCoin was developed specifically for the reason of bringing large mining operations to be better utilized to folding. However these larger Folders do not always engage in the community.

By adding a loyalty program based on days folded, we can begin to showcase on Discord, Forums, and the Stats page who has been around the longest. A day folded as any day in which you have submitted at least 1 WU, regardless of the WUs size or FAH points allocated. If you folded 10 WUs in a single day, this still only counts as 1 day folded. The breakdown of the loyalty program is as follows:

- **New Folder:** 1 day Folded
- **Bronze Folder:** 30 days Folded
- **Silver Folder:** 180 days Folded
- **Gold Folder:** 365 days Folded
- **Champion Folder:** 1,000 days Folded

We need to add here the benefits of what each level will get you. This has been a program that Jona came up with years ago, that the community really wants to see in place.

Discord Channel and Bots

FoldingCoin engages with the community via a Discord channel. This is a public channel that is available for anyone to join for free. Due to the nature of the crypto space, many people will try and exploit the easy access to the channel, so certain rules and automated bots are in place to help combat such activity. If any of the following rules are broken, the FoldingCoin team or bots may delete your messages or ban your account.

Discord Rules

- Keep things civil. Asking questions is always ok, but do not mistreat people in the community. Use common courtesy.
- Keep things relevant to FoldingCoin, Counterparty, Bitcoin, Curecoin, and FAH. Other conversations indirectly relating to the project (such as other science coins, or crypto technology) are allowed in the #water-cooler section. Topics that are unrelated (such as global politics) are not allowed. The FoldingCoin Discord channel is for learning about our project.
- Links posted to join ICOs, promote other cryptocurrencies, or investment opportunities, are are prohibited. The FoldingCoin team does not have the time and resources to vet or look into other crypto projects or investments. These kind of actions will lead to an immediate ban to protect our community from potential scams.

There are distinct channels for various conversations, and the community is to keep the conversations relevant to the appropriate channel. There are pinned messages in each channel that go over what the channel is best used to discuss about.

There are 4 main Discord roles with different permissions that allow certain users different

access and features:

- RED - FoldingCoin Team Member. This is the highest role. Anyone with this role is an official part of the team.
- BLUE - Curecoin Team Member. We work closely with our partner coin Curecoin and we show which members are apart of their team.
- GREEN - Community Member. These are users that are active and helpful within the community. They are allowed to post any links, pictures, files, etc. This role is given periodically to members of the community. The Community Member role does not entail an endorsement from the FoldingCoin project, but that they are a trusted member of the community.. This role can be revoked if misused.
- WHITE - Everyone. If you just join the Discord, you will have no role. This is limited to where you cannot send links to untrusted sites, you cannot post pictures or file attachments, you cannot create invite links, and you cannot @everyone.

Discord Bots

The FoldingCoin Discord bot is a Java application that communicates with the Discord chat service. The purpose of this application is to integrate information from various services into the Discord chat, as well as provide moderation tools to prevent the FoldingCoin Discord chat from being abused.

Link/URL Restrictions

The bot contains a restriction to URLs and links. This is to prevent users from posting malicious websites in the chat. This restriction works by processing all incoming messages and checking if they contain a link to another website. If the message does contain a link to a website it will be deleted. A record of the deleted message and the link that flagged the message is recorded and sent to the FoldingCoin team. Websites that are commonly used and known to be good have been whitelisted in this system. Users that have been given a role will be marked as trusted and be allowed to bypass this system.

Status Message Info

On the Discord application, users are able to set a short status message. The Discord bot makes use of this feature to update the status message with new information every minute.The bot can currently display the following information.

- The amount of folding points per day earned by all folders being tracked by FLDC.
- The current price of FLDC in US dollars.
- The amount of days until the next distribution.

Commands

The discord bot provides several commands which are used by users to trigger certain actions. Commands are done by processing every incoming message and checking if it starts with the "!fldc" command key. Commands are split into three categories. Normal commands that can be used by anyone, moderator commands that can only be used by the FoldingCoin team, and administrator commands that can be used by the FoldingCoin administrators and the maintainers of the bot.

- **!fldc help -** This command can be used to list all of the available commands and provide a short description about the command. This message will only contain commands that the user has the correct permissions to run. The message containing the info will be sent to the user as a private direct message. The command message will be given a check mark reaction to signify to everyone that the command was processed. This is to help prevent people from thinking the help command did nothing because they can't see the message.
- **!fldc market -** Displays information about the FLDC token, such as the market cap and current price in USD. The information for this is pulled from CoinMarketCap.
- **!fldc lookup <user> -** Allows users to look up an estimate of how much FLDC they will earn from folding in the next distribution. This command supports looking up user by their name, rank, btc address, and full folding @ home name. If more than one user is found, the full name will be needed.
- **!fldc wallet -** Displays information about a bitcoin wallet and the tokens it contains.
- **!fldc ppd -** Displays the current folding points per day for all folders being tracked by the FLDC stat tracker.
- **!fldc fah -** Provides information about Folding @ Home.
- **!fldc browser -** Provides information about the Folding Browser.
- **!fldc nacl -** Provides information about the Folding @ Home native web client for Chrome.
- **!fldc distribution -** Displays when the next FLDC distribution will be.
- **!fldc user <name> -** Looks up information about a user on Discord. It accepts using the name of the user, the id of the user, or pinging the user to look them up. You can also use "me" to get the info of the person sending the command or "bot" to get info of the bot's user account. The information shown includes their discord tag and id. The day the user joined Discord, the day they joined the FLDC Discord, how long they have been a member of the FLDc Discord, their nickname and roles.
- **!fldc reload -** Reloads all of the data that the bot has. This includes commands and all data that is pulled in from various web API. This command can only be used by moderators and admins.
- **!fldc url whitelist <url> -** Allows new websites to be added to the whitelist and be made exempt form the website linking restrictions. This command can only be used by moderators and admins.

Counterparty Tokens VS. Traditional Altcoins

Counterparty assets have significant differences from traditional Altcoins. The following sections will go over arguments for both sides and rebuttals for each one.

Benefits of Counterparty

- BTC miners hash the blocks for the transactions. This provides a strong foundation of security, based on cryptographic computations on the largest distributed computing platform currently in operation.
  - REBUTTAL - Since Counterparty is using the Bitcoin blockchain, no new innovative ideas such as lower transaction times are incorporated in the tokens.

> Unless Bitcoin is updated to address potential concerns, Counterparty runs just as Bitcoin currently does.

- Asset issuance can be locked by the Counterparty protocol ensuring that even the asset owner can't introduce more of the token into the market. FLDC was created as a locked asset[10].
    - ○ REBUTTAL - Even with the "locked" asset feature, it is still possible for the owner of the token to take control with bad intentions to steal the undistributed tokens once they become valuable.
- As Bitcoin and Counterparty developers innovate, assets evolve with them. Since Counterparty is open source, developers throughout the community create new and innovative ideas to be applied to Counterparty. When Counterparty or outside developers create applications for Counterparty, all assets are compatible automatically. Most Altcoins have to develop their own apps and features since they have a separate blockchain. Many Altcoins do not have a high enough interest in the overall crypto community for outside developers to create applications for them.
    - ○ REBUTTAL - Many Altcoins that introduce new innovative ideas have gained strong support from outside developers.
- No direct mining is required for Counterparty assets. Token creation and transfer can be verified by third party sites such as "xchain.io" yet still verified by the BTC Miners. For the FLDC asset, this is available at https://xchain.io/asset/FLDC
    - ○ REBUTTAL - Although no resources are used to hash a blockchain, the verification system depends on the security and coding efforts put forth by the Counterparty team. Since Counterparty is an application, it could have a potential bug that could affect the Counterparty network.
- Counterparty assets automatically get security and GUI updates from the Bitcoin and Counterparty developers, due to the common Bitcoin blockchain. Due to this, the asset owner can focus on adoption, distribution, applications, and economy of the coin, and not software development of the blockchain and wallet itself.
    - ○ REBUTTAL - This means that each Counterparty Asset is dependant upon third parties for updates.

Benefits of Traditional Altcoins
- Every asset payment to a recipient from Counterparty assets requires a Bitcoin transaction fee to be included on the Blockchain. If Bitcoin fees become high, so do FLDC fees.
    - ○ REBUTTAL - The high fees costs could become significantly lower if a payment channel system such as the Lightning Network gets put into place.
- Assets on the Counterparty network may be considered "fully pre-mined" since a decentralized blockchain is not continuing to issue new tokens upon block creation. Non-locked assets can have more tokens created at the discretion of the asset owner, instead of creating and locking all tokens at once. This causes the issue of potential mass creation of tokens once the token obtains real value.

---

[10] FLDC Locked Asset http://blockscan.com/assetInfo/FLDC

- ○ REBUTTAL - With Counterparty there is no current way of doing decentralized asset creation and issuance. Although you lose the benefit of token creation from hashing a blockchain, you gain the fact that the blockchain is not developed by a underfunded dev team, but rather developed by two highly funded projects being the Counterparty platform and the Bitcoin network.
- The undistributed tokens are in control of the development team. This causes the following concerns:
  - ○ If the development team decides to use the undistributed funds for inappropriate purposes, the option is there for them to do so.
    - ■ REBUTTAL - FoldingCoin Inc. is fully compliant with US law and has incorporated as an Indiana non-profit company with 501(c)3 charity status. This imposes certain accountability obligations on the organization. The sole beneficiary of all assets if there is ever a dissolution is Stanford University's Folding@home project.
  - ○ The undistributed tokens are only as secure as the development team makes them. If the development team lacks in security of the private keys, the funds could be hacked.
    - ■ REBUTTAL - FoldingCoin Inc. takes security of the undistributed tokens very seriously. The team uses a ⅔ signature signing process with 2 Board members having 2 of the keys, and a Trusted third party holding the final key incase one of the developers becomes unwilling or unable to sign off.
  - ○ The coin must be distributed by the dev team. Should the dev team lose interest in continuing the project, the token could die.
    - ■ REBUTTAL - Since FoldingCoin Inc is a registered 501(c)3 charity, the board and organization is controlled by the public. Should a board member lose interest, they will be replaced with another newly interested board member who wishes to work on the project.
  - ○ Automating the distribution still requires a limited manual process. With applications like the Tokenly Bitsplit distributor system, only one transaction of the total amount of tokens to be distributed needs to be sent to this address, then the server sends the appropriate amount of tokens to the designated addresses, but a dev must still be responsible for sending the first transaction to the distribution server.
    - ■ REBUTTAL - This gives FoldingCoin Inc. the chance to give a second look before distributing the funds out to the donors. Should any miscalculations be there, FoldingCoin Inc. has the ability to correct the mistakes before it is sent out.

Project Value and Global Benefits

Appeal to the community

Digital currency mining, as well as Scientific Grid Computing, are both great measures of user-contributed computing power.

Many Crypto enthusiasts have a rowing concern that to much energy is wasted on hashing

thousands of blockchains. A major concern is that many of these coins are either scams or "pump and dump" coins in which the developers have no true intention of bringing a real community to surround the coin. Another concern is that a lot of development is going towards chains that are almost exact copies of Bitcoin itself, and rather then the work going towards Bitcoin itself, the development hours are being used on chains that will be abandoned or chains that will not have the adoption that Bitcoin does. FLDC does productive work using Counterparty instead of securing a blockchain. FLDC can be more appealing since it represents a real benefit to humanity through medical research.

There are a lot of original Bitcoin miners with a lot of idle GPU and CPU hardware since early 2014 when the ASICs took over the Scrypt and SHA256 mining community. FoldingCoin was developed both as a way to use that hardware productively, and also to provide a boost to the Stanford University Folding@home network.

FoldingCoin can reach a large population of the general public with the sweet spot combination of FLDC and FAH. Many "Non Bitcoiners" who are not comfortable with computers, know nothing about cryptocurrencies and don't want to know the details, still want to help use their idle computer for useful medical research. FoldingCoin's Folding Browser can help make the process easier for those people by setting up the FLDC requirements through an easy to use Windows installer package. This gets the general public used to the idea of digital currency with a crypto representing something productive that much of the general public can see as valuable.

Value for crypto

Miners are constantly mining different coins. All sorts of crypto-switching programs can retarget mining equipment every 10 minutes at the most profitable coin. Then the miners instantly sell out the altcoin for Bitcoin trying to get an immediate profit. This is not a system in which a coin can become established. Many miners don't even know what coin they are mining a majority of the time. Since folding is on a different platform than mining and requires a completely different system then traditional mining does, no current software allows a computer to easily switch back and forth between folding and mining. Folder's can only use the official FAH software to fold with. Even if a program is developed to switch back and forth between mining and folding, FAH rewards you more points for completing your Work Unit as fast as possible. If the work is delayed, you will receive less points. This helps to ensure that folks do not get off of Folding to go to mining, as this will impact their rewards.

Value in earning TOKENS as a bonus

The merged folding platform offers many other tokens that might be worthless when they are distributed. Over time some of those tokens may be worth more than FLDC itself. This aspect of the distribution platform appeals to gamers, collectors, and speculators that helps draw more people into folding for tokens.

Value for Miners

Receiving more than one coin is a dream come true for a miner. FoldingCoin offers a single platform for miners to merge fold, or receive many coins for folding. With FLDC being the flagship token of Merged Folding, all participants will receive this token from FoldingCoin Inc. regardless of the success or failure of other tokens on the platform. This allows miners to

receive many coins that they can sit on or in some scenarios exchange for Bitcoin to help pay for the folding costs.

Value for helping small start-up coins

Developers of smaller startup coins spend most of their time trying to maintain a blockchain. Updating and securing a blockchain is a full time job. Many altcoins have neat ideas of having a coin used for something other than pumping and dumping. The success of a digital currency depends on the dedication of the development team. The Merged Folding platform will empower the ability for token development teams to not have to maintain a blockchain anymore. Time can be focused now solely on the mission of creating a token with a use and to start working on features as well. They can now be more directly involved in their token's community rather than wallet and blockchain development.

- Other traditional altcoins having issues with hashing power or blockchain maintenance could make the move to Counterparty to harness the Folders' participation. These coins could hold their own burns to exchange their old tokens with a new Counterparty based token.
- Many out there have great ideas for a coin, but don't want to deal with the wild west of altcoin mining. This gives them the ability to air drop their token without having to worry about a way to distribute their tokens via an ICO or mining mechanism. They will grow with Counterparty and their distribution will help increase the available folding power.

Global Benefits

The amazing thing about non-profit distributed computing is no one was compensated for their work up to this point. This made sense back when distributed computing was first developed. It was a charitable thing to donate your computing cycles for science instead of giving money or volunteer hours. This however made distributed computing really only attractive to those involved in the medical field, and hardware enthusiasts who want to push the limits of their hardware for testing or bragging rights. The introduction of Bitcoin added a financial incentive to get more and more computational power for mining. FoldingCoin is looking to add similar rewards to increase Folding@home computational power to benefit humanity.

Bitcoin proved that once an incentive program is introduced to a distributed or grid computing platform, that this encourages the adoption of the respective platform. Part of the FoldingCoin Mission is to help prove this theory. So far, FoldingCoin has been successful in the theory. Taking a look at the following charts, we can see the results we have had:

We need to add information here once the stats page has been completed