



**dystem**

Empowering open source development, rewarding its developers.

## Whitepaper - v1.0.4

# abstract

The dystem vision empowers communities to manage change as a group. Using a custom built bounty and voting system with a suite of on-blockchain tools, dystem allows community members to decide on decisions and reward those who implement them.

Built by a team of passionate developers and crypto enthusiasts, dystem is a solution designed to improve both the crypto currency community and the wider open source development community.

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# introduction

In the interest of making this white paper readable to those of a non technical nature, we have actively kept this version of the document jargon free for sakes of brevity. We intend to release a purely technical white paper at a later date outlining the inner workings of the dystem technologies.

Dystem was born from the necessity to solve several real world problems that the core team came up against time and time again. At the end of January 2018, two of the founding dystem developers were working on large web and mobile software projects.

For those not working in the software development industry, modern day software projects contain a large amount of moving parts. These come from many sources. Some parts are licensed software, some parts are open source software, some parts are custom in house built components and so on...

During the course of these projects one thing came up quite often. Some of the open source components of the projects were not being updated regularly enough despite having huge support.

Even though developers using the software were writing fixes and giving back to the main code base, on some occasions these additions were not being included. In some cases the original developer either did not have time to update the code themselves, or they opted to develop new features.

In some other cases the original open source code had been abandoned all together despite being used widely. The developers reading this all know what happened with NPM last year...

In order to move forward the main development team had to spend a large amount of resources updating the code, and in some cases the projects were delayed.

We at dystem felt that if a community could vote on what features are most required then the direction could be taken to implement them ahead of time.

If the community could also reward developers for implementing fixes, it would motivate developers to keep projects up to date and moving forward.

During this time we had noticed that several crypto currency communities were having the same difficulty. This led to a lot of FUD and disharmony being caused amongst the community.

We then realised that the next logical step was to introduce blockchain technology and cryptocurrency to solve some of these issues.

## brief

1. To produce a software solution to aide software and crypto currency communities in deciding and funding features and fixes.

2. Inspire and reward new developers to actively participate in existing open source and crypto currency projects.

### - Audience

Targeted at open source software developers.

Targeted at open source software vendors.

Targeted at Crypto currency hodler's, traders and developers.

Targeted at the open source community.

Targeted at the crypto currency community.

### - Timeline

Produce a final working solution in a 2 year period with constant iterative deployments over this time frame.

### - USP

To produce a custom solution that can be offered across a multitude of communities.

This should allow communities to better communicate and reward those who contribute to a given project and its community. This presently does not exist fully.

## features

We then put our collective heads together, sketched up some initial plans and tested them against several developers to get feedback.

The following is the current high level design for 2 initial features we will be implementing.

Note this is subject to change as we avidly believe in agile methodologies and know that change happens within software development for a multitude of reasons.

## 3.1 Voting system

The first solution we came up with is our 'on-blockchain' voting system.

The purpose of this tool is to allow community leaders to post poll's and campaigns to their community. Community members then get the opportunity to vote and to reply through the custom voting software.

The voting mechanism needs to be considered from 2 perspectives. Firstly the community leader. Secondly the community member.

### - Community leader Bob

Bob is the community leader at dystem and he wants to ask the dystem community if the project should focus on building the discord bot first, or the Reddit bot.

Bob is unsure which one will have the most impact and would like to let the community decide.

Bob then goes to the community voting system web app, types the question he wishes to ask and adds the 2 answers. Bob then adds a cut off date to the poll to signify when the voting will be counted up.

Bob must also enter an amount of DTEM that must be staked for a vote to count.

Only community members ( in this case the dystem community ) can vote. The reason for this is to protect the community by only allowing valid community members to vote. We call this 'proof of membership'. We will dive into this a little more in the section "*Community member Alice*".

### Why the amount of DTEM ?

In order to have some control over who can vote we are creating a mechanism to determine eligibility to vote. In this case Bob wants to know from the whole community what their opinion is on the bot. So he sets the 'proof of membership' value low to 10 DTEM. This means that any member with 10 DTEM in an address in the wallet can vote on Bobs poll.

Now later on Bob might want to ask a question on how to spend 50% of the development fund for the coming year. Bob feels this decision should only be made by those members who are heavily invested, so sets the 'proof of membership' value high to 100,000 DTEM. This way Bob knows that only the top tier investors will get a chance to vote on such a large decision.

Bob is happy with the content and then clicks on the 'generate poll' button.

This then generates a short link that will link to a generated page containing the poll and instructions on how to vote. This link can then be pasted into discord, twitter, e.t.c.

In order for Bob to create a poll he must pay a small fee of DTEM. Firstly its stops spammers abusing the system. Secondly it also covers costs for hosting the poll nodes.

DTEM is the polling fee currency which gives utility for the underlying coin. Though in this use case its minimal, this does have wider implications when considering plans outlined in the *"future plans"* section below.

## **- Community member Alice**

Alice has been glued to twitter all day keeping up with her daily crypto news when she spots a tweet from the dystem twitter page asking members to answer a poll.

Alice decides that she feels Reddit has a much stronger community and wants dystem to implement the Reddit bot first.

On clicking the link Alice is presented with a page describing what she must do to vote. In order to vote she must transfer 10.7354 DTEM to vote for Reddit or 10.2964 to vote for Discord to an address in her wallet before 12/06/2018 and hold it until the date has passed.

For Alice it is that simple. However there are a few questions here.

### **Why is the sum 10.7453 ?**

One early mechanism we are adding to differentiate between votes is a simple small adjustment on the 'proof of membership' value used in a given address. This also stops votes being gamed at the start of a poll. This also protects against accidentally hitting all of the addresses with exactly 10 coins in which would skew the final results.

## **Why does Alice have to hold the funds in the address until the date has passed ?**

In order for the voting to take place all voter's must show 'proof of community'. This is done by following similar Proof of stake methods in that only staking members votes will count.

This has the added effect that coins will be locked up in votes for certain time periods. This stops community members from just buying coins to vote and dump them that same second, meaning they have to put their money where their mouth is and stake it.

## **Is my vote anonymous ?**

Yes! By the very nature of blockchain technology you will be voting using your transfer address on the blockchain. No personal information is required to vote whilst at the same time you are deemed to be a valid community member. Further steps will be taken to use a new address each vote so votes can't be linked across multiple polls.

## **Is this decentralised ?**

Absolutely! As the voting mechanism requires the blockchain as its medium to gather votes, every voter will have the same copy of the chain and can validate votes at a given block height.

## **- Bob and Alice get the results**

Once the cut off date has passed the voting system will go of and inspect the blockchain and count up all of the valid votes. It will then generate a page displaying the results. Bob and Alice can then view that page to see the outcome of the vote and act accordingly. At which point Alice can spend her coins again freely.

## **- Conclusion**

Though this gives an initial overview of a specific use case it does not cover every setting and option that will be required for every kind of poll in the finished version.

In addition to this are several security and locking mechanisms we are looking into to that will ensure the coins are locked. Additionally we have a some draft mechanisms to better verify a users stake in the voting process and limit rigging votes.

## 3.1 Rewarding developers

### - Community leader Bob

Bob has found out what the community wants. Now he wants to go and build the Reddit bot.

Bob is stuck with a problem, his front end JS skills are awful, he is a LISP developer.

Now Bob has 2 choices, he can ask people on his Slack and Discord channels in the hope of someone jumping in and building it for free. Or he can pay a developer to come and do it for him. ( obviously he could just learn front end JS, but Bob is lazy ).

Now instead of the 2 above solutions ( which we have probably all seen time and time again lead nowhere in crypto ), dystem offers a third option.

Now using the rewards tool Bob is going to generate reward links to offer bounties to developers to complete the Reddit bot.

Bob will transfer the desired amount of DTSM to an address provided by the rewards tool and then enter the title and description of the job to be done.

Bob then decides he wants to promote this on Twitter, Discord and Github.

When Bob presses the 'generate rewards' button he is presented with a short link for each platform.

### - Open source developer Alan

Alan is reading his favourite community page on Discord and is looking for some work to do to earn a bit of extra cash. Alan's skills are web front end development and he is a whizz at all things front end JS.

On the Discord server a bot that pops up Bob's request for work and the price in DTEM he is willing to pay. Alan looks at what Bob is asking for and knows he can whip it up in a few days. He checks the price of DTEM and decides to go for it.

On clicking the link he is presented with the full request for development that Bob posted originally. He reads that to apply for the work he must post a DTEM address which will then link him to the work.



He then goes off to the dystem Discord community and asks the developers about the work.

Bob after speaking to Alan decides he is capable of the job in hand and they agree to do 3 deliveries releasing 33% of the funds each time to Alan.

Each day Alan shows Bob the work and Bob releases the funds to Alan until the 3 days are complete.

## **- Conclusion**

Though this gives a simplistic overview there are still some mechanisms we are designing, particularly around securing Bobs funds and providing escrow support to protect Alan.

In addition to this we are looking to sign work with a generated public/private key pair that allows for releasing of the funds to be sure that Bob is anonymous when posting work but truly in charge of his funds.

We are also looking at integrations with a variety of platforms to make better use of both promoting and sending rewards. Specifically Github, Reddit, Discord and Twitter. Our aim is to make rewarding a seamless and simple process for all involved.

In conclusion this then gives us the full end to end solution in the brief. Utilising the toolchain currently in development community members and leaders can simply move forward with projects.

Underpinning this system is the dystem blockchain and the DTEM crypto currency.

# specification

Below are the specifications for the dystem currency and blockchain.

Specification	Detail
Ticker	DTEM
Algorithm	Quark
RPC Port	10700
P2P Port	65443
Block time	60 seconds
Minted Maturity	101 Blocks
InstnatX	SwiftX
Privacy	N/A
POW premine	Ended block 200 800,000 DTEM
POS	Starting block 201
POS / Masternode distribution	82.5% Masternode 17.5% POS

## block rewards

Height	Reward per block	Total in circulation
0 - 200 ( Premine )	N/A	800000 DTEM
200 - 6100	0.5 DTEM	803050 DTEM
6101 - 36100	1 DTEM	833050 DTEM
36101 - 100100	2.5 DTEM	993050 DTEM
100101 - 120100	25 DTEM	1493050 DTEM
120101 - 220100	15 DTEM	2993050 DTEM
220101 - 320100	10 DTEM	3993050 DTEM
320101 - 1320100	8 DTEM	11993050 DTEM
1320101 - 2320100	6 DTEM	17993050 DTEM
2320101 - 2920100	4 DTEM	20393050 DTEM
2920100 - 21000000	2 DTEM	

## wallets

<https://github.com/Dystem/dystem-core/releases>

## explorer

<https://explorer.dystem.io>

## roadmap

The initial beta releases are going to be aimed at our community for feedback and review.

Feature	Status / Expected delivery
Concept	Complete
Chain beta test	Complete
Wallets	Complete
Discord / Twitter	Complete
Wallets V1.0	Complete
Website V1.0	Complete
ANN	Complete
Website V2	May 2018
Masternode Setup scripts / manual / docker image	May 2018
Beta voting Mechanism	EO Q3 2018
Github + another Reward bot	EO Q4 2018
Public Release V1 voting + rewards	Q1 2019
C# chain	Q3 2019

## future plan

Though we have given you a brief overview of what we are building it doesn't actually encompass our long term plan.

Once we have built, used and tested our voting and rewards platform on our own community we intend to open it up.

Firstly we will be opening it up to anyone, as long as you pay the DTEM fee you can create polls and rewards for anything you want. This will be based on a tried and tested platform aimed initially at the open source community.

Secondly we will support voting and rewards using other crypto currencies. This way any one can ask a staking group of a given currency anything. People can then earn rewards in the currency of their choice. We personally want to do some development for DOGE!

Not only does this massively increase utility for the platform but also the underlying currency. As all polls will require the payment of DTEM to run.



Presently the team is made up of 2 developers with wide ranging skills and a huge combined amount of industry knowledge.

Both with well over 15 years industry experience the team is starting from a good place.

Having worked in all areas of software development across many sectors including the gaming, financial services, telecoms and design industry we bring a lot to the table.

Our experience covers multiple language's across multiple platforms. Covering native iOS and Android development to C++ game development right through to highly scaled backend services and web frameworks in many different flavours.

For more information please join our discord to find out what we are up to right now!

<https://discord.gg/k3s5fdH>

#### **\*Disclaimer**

This document is a working document and is open to change as the project moves forward. Please refer to the community channels to retrieve the most up to date and recent version of the white paper.