The blockchain for building open source software products and decentralized organizations

READ TECHNICAL WHITEPAPER

ELLCRYS.CO
INTRODUCTION
WHAT IS ELLCRYST

Ellcrys is a blockchain that allows people around the world to build open, community-owned software products and democratic internet organizations.

People from anywhere can offer their skills to an Ellcrys organization, participate in decision making processes, receive rewards for their contributions and gain reputation within the network.
THE PROBLEM

Current web service providers limit organization accounts to only support a single owner who is granted unlimited access to add and remove users and manage the account and all resources. We see this in services like Github, Stripe, Heroku and thousands more.

This kind of account or organization structure cannot work for future decentralized organizations where there may not be a single owner or leader, no trust and no headquarters.

This is a fundamental issue that needs to be solved before decentralized, effort-centric internet organization is possible.
On Ellcrys, a git repository is the centre of all collaborative endeavours. It is an organization. By default, it is multi-owned, meaning there is no owner, no leader, no need for trust and no headquarter.

Anyone can fetch its content, push contributions, verify and vote for pull requests and other proposals.

A repository can receive payment for service offered or a donation. Contributors can collectively decide a revenue sharing and management model unique to a repository.
ALTERNATIVES

<table>
<thead>
<tr>
<th>Colony</th>
<th>GitHub</th>
</tr>
</thead>
<tbody>
<tr>
<td>A platform for open organizations</td>
<td>The most popular version control service for developers.</td>
</tr>
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</table>

COMPETITIVE ADVANTAGES

**ellcrys vs GitHub**

- Users can create censorship-resistant and highly available git repositories.
- Native coin reward for collaboration when pull requests are accepted.
- Revenue generation model for maintainers and individual developers via paid branches, paid issues and paid tasks.

**ellcrys vs ASSEMBLY**

- Assembly had too much control over a project’s decisions, assets and other processes. Ellcrys completely democratises ownership and governance.

**ellcrys vs colony**

- Colony is predominantly finance and government centric. No way to measure effort. Ellcrys is firstly effort-centric. Effort is measurable and trackable via pull requests.
Decentralized Git Hosting
Ellcrys can be used as a version control system for software projects where decentralized ownership is a requirement. In the future, repositories of decentralized businesses or protocols (like bitcoin, ethereum) will be hosted on the Ellcrys network.

Software Outsourcing
Project owners can outsource their open source projects to millions of independent developers and be able to retain ownership of their repositories, create and distribute tasks and retain power to set price. Individual developers can complete tasks and earn rewards.

Decentralized Autonomous Organizations
Communities can build decentralized, effort-centric organisations around a git repository. These organizations can work on mobile applications, web apps/services, smart contracts, libraries etc. Decisions are made through a proposal and approval voting mechanism.

Paid Open Source Product
Maintainers of open source products can create branches and set a price to be paid by people who fetch the branches. Maintainer and individual developers can also earn coin reward for fixing paid software issues.
ECOSYSTEM
Ellcrys is on a mission to create a new kind of organization structure that does not only allow for trust-less, leader-less software collaboration, but one that allows open source communities create real, honest businesses that solves real-world problems.

Organizations that can compete with today's centrally administered businesses in terms of efficiency, scalability and impact.

To achieve these goals, we will be relying on the ecosystem that will rise to support and grow the network.
The following are categories of people who are most important to sustaining the Ellcrys ecosystem and ensuring it thrives.

VALIDATORS
Validators are network node owners who contribute computing resources to power and secure the network. In turn, they are rewarded with new coins.

CONTRIBUTORS
Contributors are people who create, manage and contribute work to a repository.

COIN HOLDERS / TRADERS
Coin holders provide the coin liquidity required for contributors and end-user to participate in Ellcrys economy. Contributors and end-users purchase coins from traders to gain access to the network.

BUSINESSES / SERVICE PROVIDERS
Service providers provide specific services tailored for Ellcrys organizations in exchange for coins. Some examples of services include cloud hosting & database, domain purchase & management, marketing and sales etc.
The Ellcrys network, like Ethereum requires a digital asset to work as a medium of exchange and to secure the network. This section describes our native cryptocurrency.

<table>
<thead>
<tr>
<th>NAME</th>
<th>SYMBOL</th>
<th>DECIMALS</th>
</tr>
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<tbody>
<tr>
<td>Ell (plural: Ellies)</td>
<td>ELL (ȅ)</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SMALLEST UNIT</th>
<th>TOTAL SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000000001 (a.k.a chakra)</td>
<td>10 000 000 000 (10 billion)</td>
</tr>
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<table>
<thead>
<tr>
<th>MINING ALGORITHM</th>
<th>UTILITY</th>
</tr>
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</table>
| StackMint        | - P2P Transactions  
|                  | - Push Fee       
|                  | - Fetch Fee (paid branch only) 
|                  | - Network Consensus Skake 
|                  | - Marketplace Transactions |
Ellcrys marketplace is where service providers showcase and sell their products and services to Ellcrys organizations.

Although, Ellcrys organizations are decentralized, they are still able to purchase services through purchase proposals that gets approved by members.

All transactions will be paid using the native coin.

Some of the services to be available include but not limited to:

- Web Hosting
- Managed Database
- Managed Marketing & Sales
- Business Registration
We are building a blockchain capable of storing git objects belonging to a project. We are actively working and researching on various concepts and technologies to ensure the Ellcrys platform is capable of handling thousands of transactions per second.

**CONSENSUS ALGORITHM**

The Ellcrys blockchain will rely on a Proof of Stake based consensus method. Delegated Proof of State is one of the variations of PoS we are implementing.

**OBJECT STORAGE**

Git objects will be immutably stored on the Interplanetary File System (IPFS).

**SHARDING**

The Ellcrys blockchain will be a multi-chain network capable of handling thousands of transactions concurrently on sub-blockchains.

**SMART CONTRACT**

While the Ellcrys network is not primarily a smart contract platform, it will be able to run smart contract applications written in established languages.
New coins are introduced into the network through a process known as StackMint. StackMint is one of the fairest methods of global coin distribution in that it allows anyone in the world to exchange national banknotes for new coins.

**HOW IT WORKS**

1. **TAKE A PHOTO OF A BANKNOTE**
   Anyone in the world can take a photo of any supported banknote using a mobile phone.

2. **SEND BANKNOTE TO NETWORK**
   Send the photos of banknotes to a network node for validation.

3. **NETWORK NODE VALIDATION**
   Node on network analyse banknotes and rejects invalid banknotes. A fingerprint of an accepted banknote is computed and stored.

4. **CROWD-SOURCED VALIDATION**
   A second validation phase requires users to validate banknotes manually. Users bet some coins and provide a validation result for a banknote. If their result is wrong, they forfeit their stake, otherwise they keep their stake and share in the newly created coin.
After validation and acceptance of the banknote, new coins are created and shared between the owner of the banknote and the validators. The owner of the banknote keeps the largest share.
Current blockchain incentivise node operators through a system that rewards only the nodes that mine or forge blocks. Often, these nodes are highly specialised, efficient and outcompete less powerful nodes. This means less powerful nodes will get no reward even though they partake in ensuring the security of the system.

Ellcrys is taking a different approach. We introduce Universal Node Reward, a system that ensures all node are entitled to monthly rewards based on their network availability level.

Nodes that have been active for a full month get more coin reward than nodes that have been active for lesser periods.

As a network where nodes store assets belonging to repositories, it is unfair for only a handful of nodes to get coin rewards when assets are equally and immutably replicated across all nodes.
To support continuous development of the Ellcrys project, we are having several token sale events designed for private and public investors. Below is information about the rounds of token sale.

<table>
<thead>
<tr>
<th>ONGOING</th>
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<tbody>
<tr>
<td><strong>PRIVATE SALE</strong></td>
</tr>
<tr>
<td>TOTAL SUPPLY: 300,000,000</td>
</tr>
<tr>
<td>PRICE/ELL: $0.05</td>
</tr>
<tr>
<td>BONUS: up to 10%</td>
</tr>
<tr>
<td>START DATE: 24th Dec, 2017</td>
</tr>
<tr>
<td>END DATE: 24th Jan, 2018</td>
</tr>
<tr>
<td><strong>PRE-SALE</strong></td>
</tr>
<tr>
<td>TOTAL SUPPLY: 800,000,000</td>
</tr>
<tr>
<td>PRICE/ELL: $0.08</td>
</tr>
<tr>
<td>BONUS: up to 35%</td>
</tr>
<tr>
<td>START DATE: 1st Feb, 2018</td>
</tr>
<tr>
<td>END DATE: 1st Mar, 2018</td>
</tr>
<tr>
<td><strong>ICO</strong></td>
</tr>
<tr>
<td>TOTAL SUPPLY: 900,000,000</td>
</tr>
<tr>
<td>PRICE/ELL: $0.1</td>
</tr>
<tr>
<td>BONUS: up to 25%</td>
</tr>
<tr>
<td>START DATE: 30th Mar, 2018</td>
</tr>
<tr>
<td>END DATE: 30th Apr, 2018</td>
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</tbody>
</table>

Learn more: [https://token.ellcrys.co](https://token.ellcrys.co)
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