



# INTRODUCTION TO STARCOIN

LIGHT WHITEPAPER

EMPOWERED  
BY SECURITY  
FROM THE  
ORIGIN

REDEFINE  
VALUES  
IN WEB 3.0

# EMPOWERED BY SECURITY FROM THE ORIGIN;

*Redefine Values  
in Web 3.0*

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# WE SHOULD FOCUS ON THE NEXT STEP.



*With the growing buzz around blockchain technology and cryptocurrencies, we're experiencing something we've never seen before with blockchain technology.*

*Whether you're looking at the value to consumers, value to financial institutions, or cryptocurrency has gradually entered our lives through the introduction of digital wallets and the provision of loan and payment systems of value to those who participate in the economic system generated by the blockchain.*

*Most of us don't know how mobile Internet technology works, but it has indirectly affected our lives. Likewise, blockchain will be the perfect "back office" for many changing technologies and will impact how we educate, manage, consume, govern and communicate.*

*There is no doubt that blockchain is and will continue to change our world. And we've seen huge potential in it. Of course, we won't know its ultimate purpose until we get there, but intelligent people will be in the right market at the right time.*

*Today's society is full of uncertainty and trust issues — and for a good reason. Then as new technologies emerge, there will be new obstacles and problems, but the cycle will continue, and these new problems will be solved with more aggressive solutions.*

*Obviously, In today's world of uncertainty, the only certainty is change.*

# INTRODUCTION

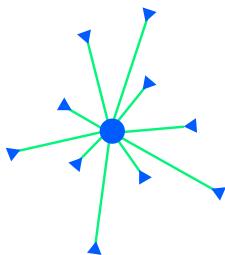
*Do not step on other tracks, just go own way* 

Starcoin is a proof-of-work blockchain that enables secure smart contracts to power services in decentralized finance, gaming, and NFTs.

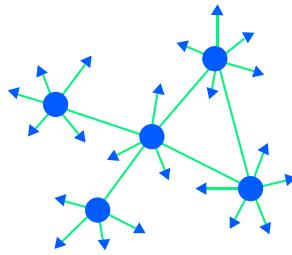
Starcoin is a user-oriented Web3 infrastructure that redefines value more securely, serving upper-layer applications and end-users with a scalable architecture. Starcoin uses the enhanced PoW consensus to ensure that the user owns the ownership of the data on the chain and to maintain the user's rights and interests are sacred and inviolable.

In design, Starcoin incorporates the concept of security and introduces Move as a smart contract language to define safer user assets in the form of resources. In terms of implementation, Starcoin improves the scalability of applications and the interoperability of users through a layered architecture.

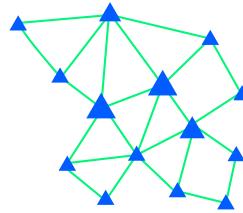
Starcoin has built a complete set of solutions and a Web 3 infrastructure to serve users, the concept of security, and the basis of layering.



**Centralized**



**Decentralized**



**Distributed**

# SOLUTION

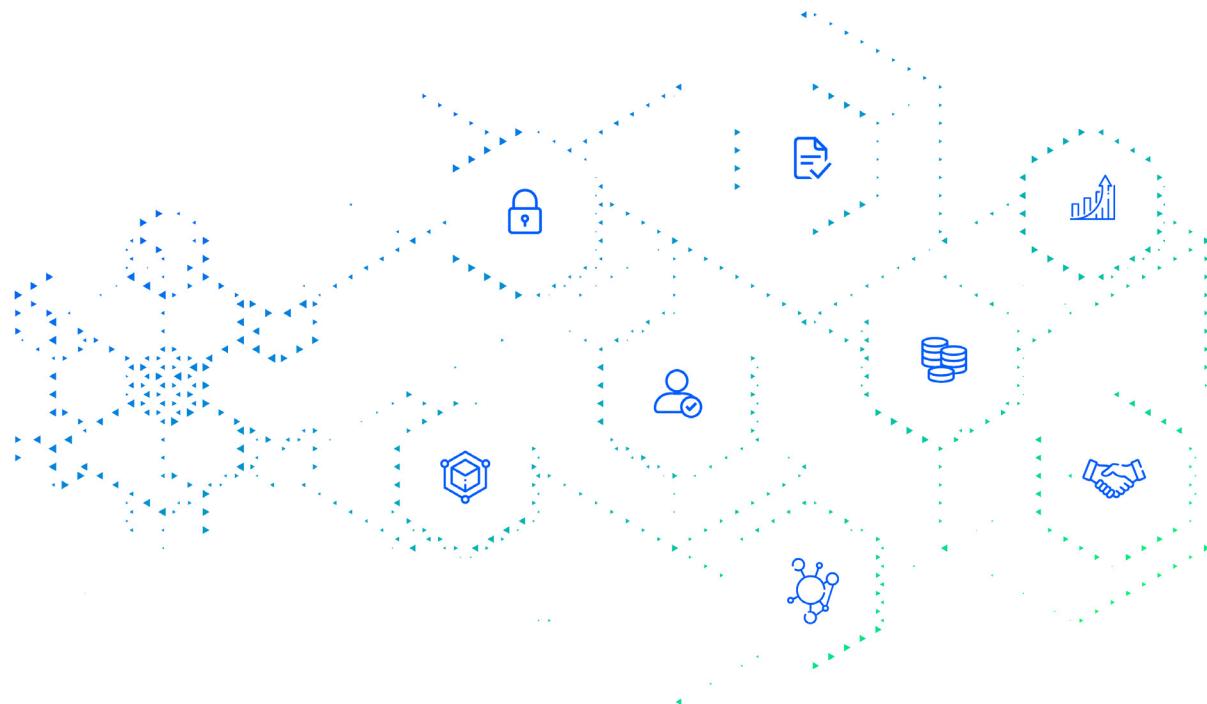
Value exists to Solve Challenges 

## Challenge

Blockchain technology will play an increasingly vital role. However, it is undeniable that with the growth of users, the problems of low scalabilities, such as high transaction fees and low throughput, with lots of attempts, have not been completely solved.

On the other hand, the security of digital assets has become more critical. Unfortunately, the existing system has design flaws that can not solve easily. An efficient and good user experience Web 3.0 world is still a long way.

In the long run, whether the technology can benefit more people reminds us that we must continue to make innovations, which is a challenge but a more positive driving force.



# OVERVIEW



## Scalability

Starcoin is an efficient, instantly confirmed, scalable blockchain infrastructure with cross-layer interoperability and infinity scalability.

## Security

### Consensus

Enhanced PoW, most secure & decentralized network

### Smart Contract

Move, the securest smart contract

## User-oriented

Fast speed, Low fee

Digital Assets as Account resources, easy to manage

Rotate private key without changing Address, secure and easy to user

Accept token feature, away from spam



# TECHNOLOGY



## Scalability

*Infinitely Scalability .  
Energetic Interoperability.*

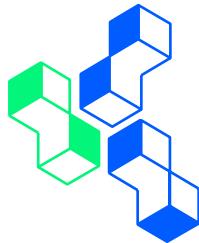
### A multi-layer design to achieve scalability and interoperability

The lack of scalability and interoperability of blockchains has been a pain point for the industry. Moreover, it leads to a fragmented ecosystem and a bad user experience for both developers and users.

Starcoin has substantially solved the problem of bridging the gap between users and the underlying blockchain and improving the scalability of the blockchain through a layered architecture, increasing interoperability and

improving the user experience of interoperability in multi-chain scenarios.

Layer 1 of Starcoin constructs a safe and stable data storage environment to protect users' data ownership. Starcoin's Layer2 provides a fast, user-friendly form of data scaling to enhance the user experience. Design an interactive state transfer protocol between Layer1 and Layer2 of Starcoin to help users quickly access applications between different layers.





*Security from the origin  
is the foundation of value  
empowerment.*

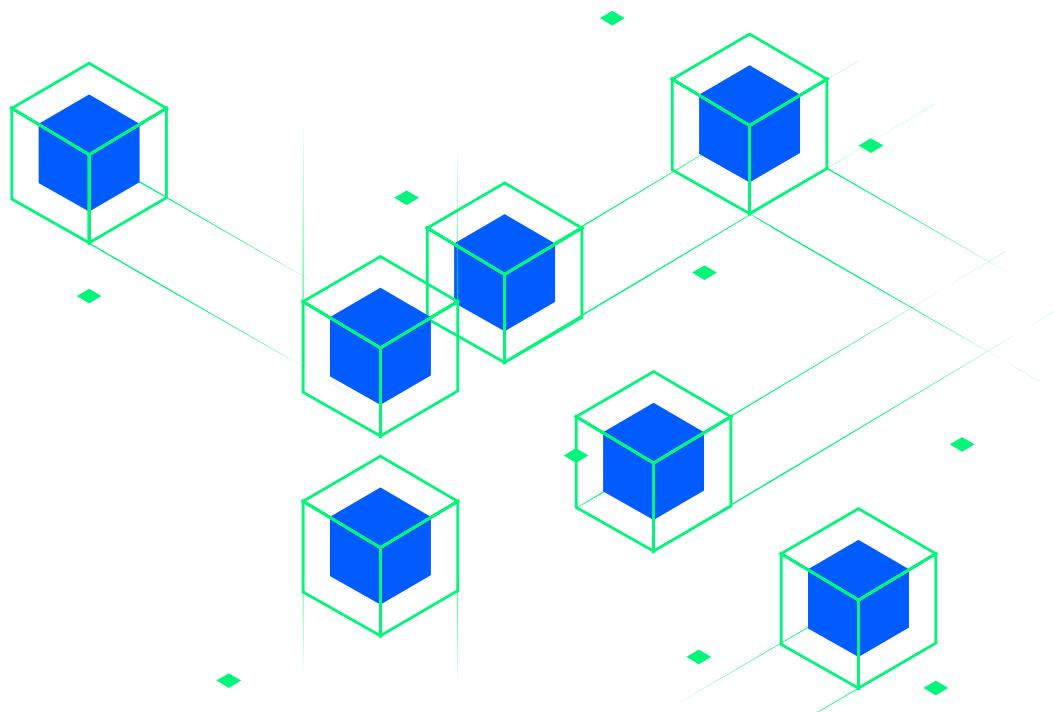
## Enhanced PoW

Starcoin consensus is an enhanced version of the Nakamoto consensus. As a result, any user can participate in jointly maintaining network security and protecting users' data ownership.

The Starcoin consensus uses an adapt method to speed up the block production and reduce the transaction confirmation time. It introduces the uncle block rate and other runtime data to dynamically and intelligently adjust the status of

the block production time, difficulty, block reward, block size, etc. As a result, it can improve network utilization and reduce user waiting time.

Starcoin consensus can scale securely by managing some important consensus key parameters, thresholds, and other data in a unified manner in on-chain configuration and combined with the on-chain governance mechanism.



## Move, the most secure smart contract

### Starcoin's security concept

Starcoin uses the more secure language Move as its smart contract language. It introduces a resource-oriented programming paradigm and redefines the data operation permissions between users, chains, and contracts, allowing users to control the ownership of data and helping users realize the value of Web3.

### Move's security revolution

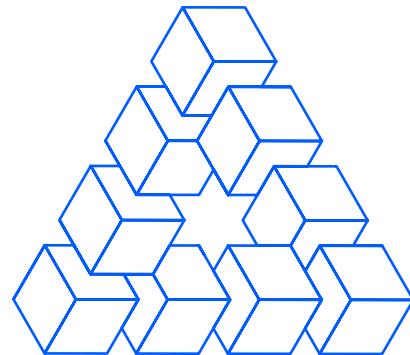
Move has established a smart contract security revolution, using more scientific means to improve the security of on-chain assets and serve Web3 users.

Learned from many real vulnerabilities, Move has designed a series of out-of-the-box security features, resource types, stable static calls, and a perfect testing system. In addition, it uses systematic formal verification tools to significantly lower the security threshold for developers and improve the security of user data.

## Formal Verification

Safety is no small matter. To serve users well and ensure the inviolability of users' assets, Starcoin introduced formal verification technology to maximize security.

Formal verification is a cutting-edge technology that uses mathematical means to prove a program's security scientifically. Move supports



### Move's important features

Resource-oriented programming helps developers easily design digital assets that are irreproducible, non-discardable, and secure.

Generic-oriented programming allows assets to be freely combined, makes protocols easily scalable, and makes applications more open.

Static types and static calls exclude program uncertainty, avoid the security risks of dynamic calls, and improve the stability of the code.

a set of mature formal verification tools. As a result, users only need to write SPEC to prove the program's security and easily avoid many security risks.

Static types and static calls exclude program uncertainty, avoid the security risks of dynamic calls, and improve the stability of the code.



# User-oriented

*User-oriented is the meaning of all values.*

## Web 3.0 & Ownership

In the era of Web 3.0, users control the ownership of data. Starcoin respects users' digital rights and guarantees users' ownership of data.

Starcoin uses the more secure Move as the smart contract language to redefine the data operation permissions between users, chains, and contracts, allowing users to control data ownership.

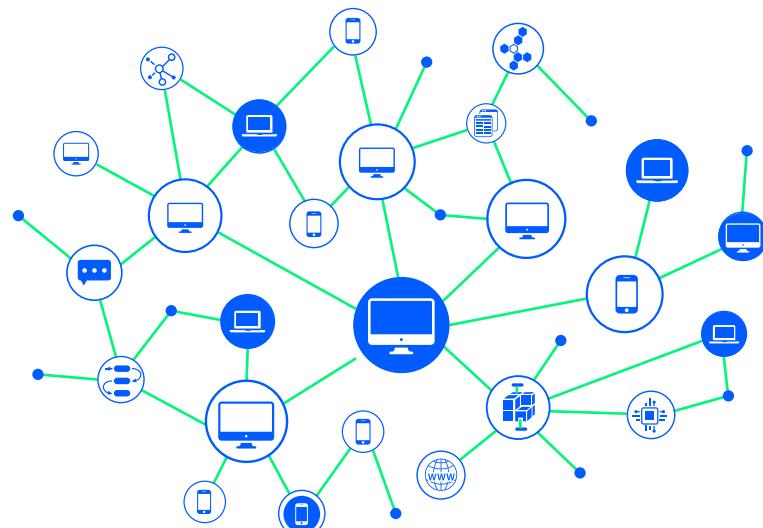
The data generated by the contract is stored in the user's account in a decentralized manner, and no one can modify it without the user's permission. Help users realize the value of Web3 and let users truly "make their own data, make their own decisions."

## On-chain Governance: DAO

Starcoin implements an open, transparent, fair, and on-chain governance DAO to help users achieve their rights.

all tokens. As a result, all users can initiate and vote on any issues, participate in community governance, and protect their rights.

Starcoin has customized a general on-chain governance DAO contract in Stdlib, supporting



# Innovations in Depth

*Innovation is a permanent  
fuel for freedom*

## Digital assets: First-class citizens of Web3.0

Security is the design philosophy of Starcoin. The token protocol officially provided by Starcoin helps developers quickly build a safe, secure, and reliable token model to ensure the security of users' assets is sacred and inviolable.

A secure token protocol is the core foundation of applications. Starcoin has formulated and implemented the official token protocol, using more secure resource types to design token types, providing security from the force from the virtual machine level, and ensuring that tokens cannot be copied or disappear in the system.

## Freely combinable NFT

Lack of scalability is the core problem that limits NFT scenarios. Starcoin has developed and implemented a different NFT standard, which provides NFT with the ability to be secure and freely scalable.

Scalable NFTs. Starcoin's standard NFT protocol is implemented through generics, supports batch operations, and supports a free combination of NFTs with good scalability. It is suitable for any form of NFT scenario.

Secure NFTs. Starcoin's standard NFT protocol uses a more secure resource type as the basic type of NFT, which provides security from the virtual machine level, ensuring that NFT cannot be copied or disappear.



## Bootstrapped Economic Model

Destroy the mint permission to ensure a constant supply of STC. In the genesis transaction, the genesis account will mint all STC, lock it in the treasury, and then revoke the mint permission to ensure that no STC will be increased.

Linear withdrawal rights. STC is locked in the treasury and emissions linearly through block time. The reward for each block is distributed from the treasury and sent to the miner who created the block. It has a delay of N blocks

before the account can use. The initial delay value is 7 blocks.

A bootstrapped economic model. In the economic model of the PoW chain, tokens are distributed to miners first and then transferred to other ecosystems. Moreover, if the funds in the treasury can eventually cover future R&D investment and miner rewards, it means that the economic model of the chain has bootstrapped itself up.

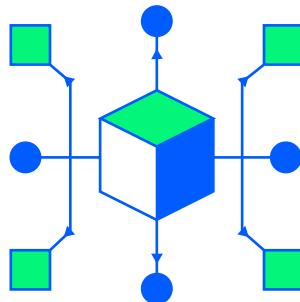
## Use Stdlib to manager consensus

Stdlib is a unique feature of Starcoin. It builds a secure and general underlying framework to help developers quickly build scalable applications.

Through Stdlib, Starcoin has officially customized a series of general protocol standards, including secure token protocol, freely composable NFT protocol, open Oracle protocol, etc. The standards are unified and compatible with each other.

Through Stdlib, Starcoin officially launched various out-of-the-box components, such as DAO, on-chain configuration management, etc. The parts are reusable and reduce the development workload;

Through Stdlib, Starcoin has officially implemented some simple and easy-to-use tools, such as SafeMath, floating-point calculations, etc., which are easy to use and help developers build robust apps.



## Safe Smart Contract Upgrade Plan

Starcoin aims to serve users and advocates law as code. In some cases, Starcoin hopes to have a solution to upgrade smart contracts to protect user assets better and safely.

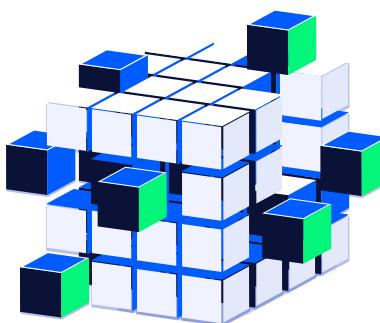
Starcoin has an on-chain governance DAO which joint participation and supervision of all

community members. As a result, users can vote on the upgrade of the contract, and the change will take effect through the contract code automatically if the vote has passed.

## State Billing

State explosion is one of the problems that public chains must face. The block data will increase daily, and more and more data will accumulate. Even if it has no longer been visited, it still has to be stored and synchronized by all nodes, a massive waste of resources.

In response to the state explosion problem, Starcoin adopts the strategy of survival of the fittest. The method of state charging gradually accumulates valuable user data, eliminates those expired data that have little value, and avoids the infinite expansion of the state.



# ECOSYSTEM

*Empower Web 3.0 by becoming the chain of values*

## Value Deposition

Starcoin aims to serve users, help users save valuable data on the chain, and allow users to have data ownership. Starcoin integrates the design concept of security into all dimensions of the chain, making every effort to secure users' data and deposit value.

## Value Re-engineering

Starcoin is user-oriented, has good scalability, and is designed to be user-friendly, narrow the distance with users, help users exert value, realize value reconstruction, and redefine the value of Web 3.0.

## Value Empowerment

Starcoin provides nutrients for various user scenarios and formulates rich standard protocols by combining the advantages of secure smart contracts and layered networks. In addition, it offers complete essential components and gives the ability to freely combine, helping developers reduce security and development thresholds to empower users' value.

# ABOUT STARCOIN

*Redefine value together in a decentralized world*

## Who we are

Starcoin provides the utmost security from the origin based on enhanced PoW consensus and Secure smart contract, using the language of Move. We give the distributed financial networks of digital properties through layered and flexible interoperability that empowers every participant in a Web 3.0 ecosystem concretion.

## Why us

We base our technologies on the most developed Enhanced PoW consensus and focus on the intrinsic value of each individual on the chain.

We provide the utmost security for the empowerment of value, using a Move-powered Secure smart contract to benefit all resources.

## Our Vision

In the age of Web 3.0, we aim to realize the empowerment of values based on the technological innovations of Layer 1. We engage in the reproduction of values through a continuous upgrade of Layer 2, to redefine and realize the mutual growth of values.

# TEAM

*The power to bring together  
excellence, driven by shared values*

## Starcoin Foundation

The Starcoin Foundation is an independent standards body that oversees and supervises the advancement of Starcoin and the Starcoin ecosystem. As the legal custodian of the protocol and the owner of the Starcoin brand, the Foundation works to drive adoption and partnerships, grow the Starcoin community globally, shape legislation and commercial standards, and ensure stakeholder accountability at every level.

The Foundation's most crucial responsibility is driving platform adoption and supporting the diverse Starcoin community – people like you – engaging with and implementing ideas on the Starcoin platform. To fulfill this caretaking role to

the highest standards, the Starcoin Foundation has a governing Council, a professional executive team, and community managers recruited directly from the wider Starcoin community in many cases.

However, their focus is as outward-looking as it is inward. The Foundation is equally committed to working with other critical industries within the blockchain realm, contributing to the advancement of the technology and driving adoption with other compatible systems. In addition, the Foundation contributes to the conversation and perception of blockchain globally – to ensure that blockchain technology can be accessed and understood by all.



## Westar Labs

A pioneer in layered blockchains

Focus on the blockchain and distributed technologies, including Layer 2 architecture, Move ecosystem and secure smart contract, Web3 innovations, on-chain governance, network performance, PoW consensus optimization.

# ROADMAP

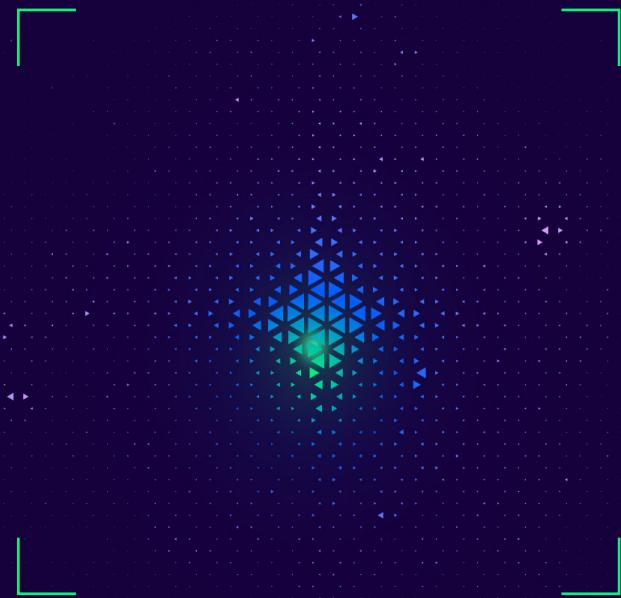
*Redefine value:  
The value of a  
decentralized world*

PHASE

01

## DISCOVERING LIGHT

Small but shining enough to be discovered, our existence is beginning because of our common goal. Everyone in the blockchain ecology is a star scattered in the universe. We are eager to be



discovered, and people gradually start to realize us and discover our value. Like our vision of value symbiosis, we hope everyone can find their value and discover light in their lives.

## OUR INITIAL STAGE

<b>End of 2018</b>	Starcoin first white paper, build a scalable blockchain
<b>June 18, 2019</b>	Facebook Libra formally announced
<b>Q4. 2019</b>	Starcoin L1 adopted Move
<b>Apr 9. 2020</b>	Starcoin v0.1 released
<b>Mar 27. 2021</b>	Starcoin v1.0.0.beta released
<b>May 18. 2021</b>	Starcoin mainnet launch
<b>June 24. 2021</b>	First Move Dapp launched, the on-chain governance DAO
<b>Sep. 2021</b>	Starcoin NFT spec released, first NFT marketplace Cyberrare online

PHASE

02

## FOLLOWING THE LIGHT

As time goes by and the value settles, more and more people become users of Starcoin and become the many points of shining starlight in the Starcoin ecology. We have common goals

and value beliefs, so we will attract more people to join us and follow the traces of light together. To join the process of finding their own values in finding their own light.

### Roadmap in 2022

**Jan 2022** A Play 2 Earn game, Arm Wrest War (AWW) online

**Mar 2022** FAI goes online. FAI is a stablecoin protocol created by Bfly Finance  
Starswap, a general-purpose DEX on Starcoin, launched on the mainnet  
Fai Liquidation open for public

**Apr 2022** First cross-chain Bridge, connecting Starcoin and Ethereum  
Launch Bfly, an algorithmic currency Protocol

**May 2022** FAI protocol support more tokens as collateral

**Jul 2022** First Lending Protocol, fly on mainnet

**Sep 2022** First L2 network on Starcoin testnet

PHASE

03

## BE THE LIGHT

When many starlights gradually form a dazzling enough light area, we who share common values and beliefs become a little starlight of the community. Starcoin will also become an ecology that attracts many starlights, inspiring everyone in the community to become their light.

Interoperability

Between all layers in  
Starcoin Network

Important Value  
in Web 3.0

PHASE

04

## SPREADING LIGHT

While Small but shining enough to become a piece of starlight in the decentralized world. When many people become the starlight on the chain, Starcoin will also be visible because of the ecosystem that attracts many starlights, each person in the community has their own unique value, and the value is empowered to spread light again and attract more people who want to redefine value in the decentralized world.

Infrastructure  
of Web 3.0

Infinity  
Scalability

Internet Native  
Digital Economy

# COMMUNITY

*Empower the Web3.0, Become the Value Chain of Web3.0*

We aim to build a user-oriented open network where everyone can participate and enjoy Starcoin. Each user has complete control over their data. Each user can define their value. Each user can realize their value in any of the following ways: an invested user, a miner, or a developer.

1. Maintain Starcoin's network security, safeguard users' data ownership from infringement, and create a stable Web3 infrastructure.
2. Participate in Starcoin's on-chain governance DAO and contribute to the development of Starcoin.
3. Contribute to the Starcoin ecosystem and build scalable Web3 applications.



# MAKE FRIENDS WITH THE EXPLORERS, ADVOCATES, AND FORERUNNERS OF WEB 3.0

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