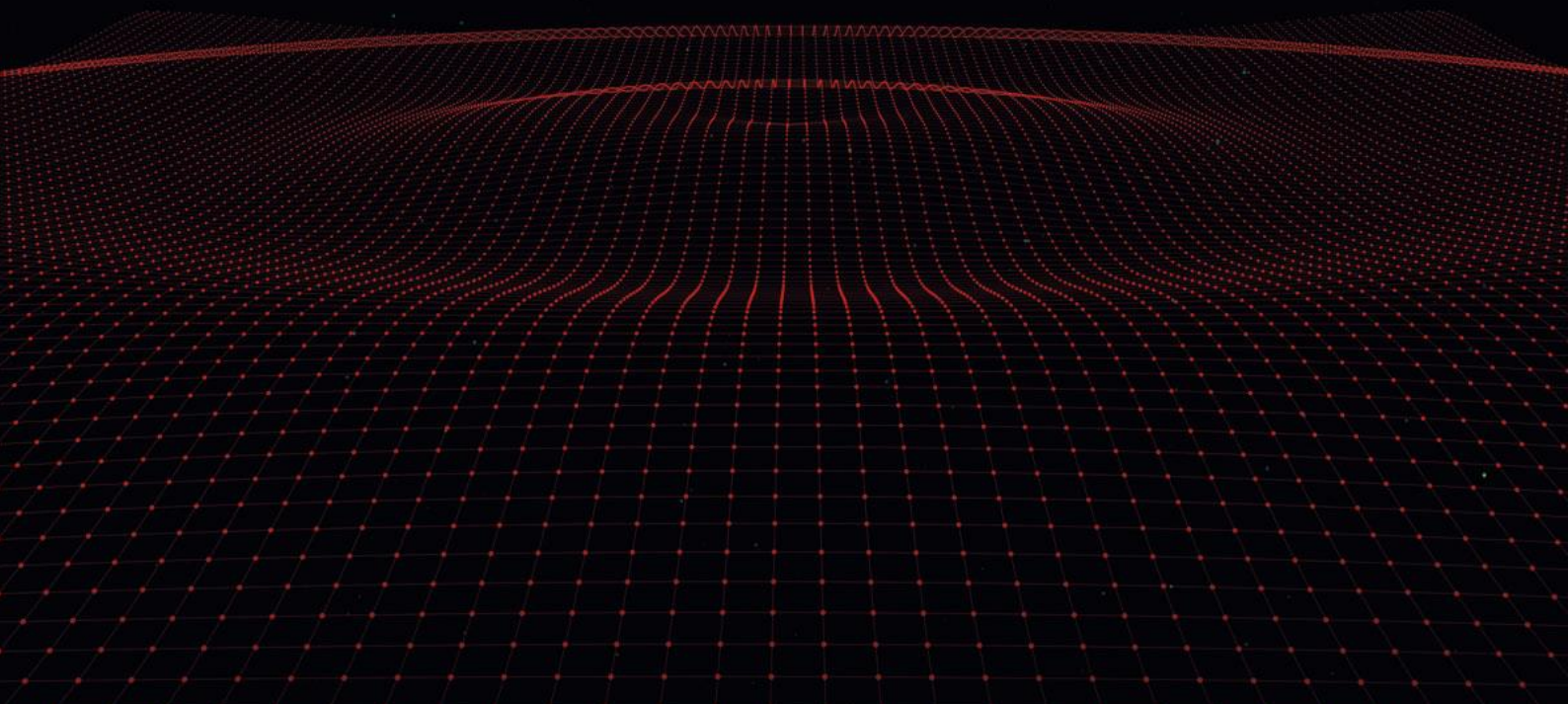# CHAINSQUARE

Whitepaper    V 1.80

**New Blockchain Payment Paradigm**

# CHAIN SQUARE'S REWARDS POINTS PAYMENT PLATFORM

# Disclaimer

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8) Participants must confirm and review by themselves whether the tokens are purchased from local participants as legitimate, or if they can be resold to another buyer in another area. This white paper does not provide the basis for such decisions and judgments, and the CHAIN SQUARE team assumes no responsibility for the participants' wrong decisions.

9) CHAIN SQUARE will continue to review the legality of the legitimacy of the business using the CHAIN SQUARE (CHS) Wallet and a number of future CHAIN SQUARE SYSTEMs.

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# CONTENTS

# Summary
## CHAIN SQUARE Project

CHAIN SQUARE Project
Chain Square is a project for payment of rewards points using a blockchain system, and it is aiming to incorporate blockchain technology into the currently used rewards points system.
This converts rewards points scattered around the world into chain square tokens (CHS) through the chain square platform, making it convenient for anyone to use at credit card merchants around the world.

Rewards points are easy for people to earn and use, and have sufficient potential to develop into a form of payment. However, the fact that private institutions issue and operate as centralized entities can be a risk factor. In addition, the lack of an institutional security system has not been recognized as a value of currency in that it lacks credibility as a payment method.

The Chain Square project figured out that various limitations of the existing rewards points can be solved by applying blockchain tokenization. In addition, it has the business strength of promoting projects with competitive partners to effectively commercialize the rewards system to the market.

The Chain Square platform will convert the value of all rewards points, including Korea, into Chain Square tokens (CHS) through evaluation. And this platform will make it convenient to use both online and offline at credit card merchants around the world through the global payment network of Chain Square partners. Chain Square aims to build an efficient and secure digital payment platform by providing new services that customers can use by integrating unused reward points.

The Chain Square project will integrate various rewards points with blockchain technology in cooperation with rewards points companies, and customers will be able to purchase and consume high-quality products and contents using the integrated rewards points.

Through the establishment of an innovative platform, Chain Square aims to establish a position as a blockchain-based rewards points company, and furthermore, create a mutually viable payment ecosystem that can function as a currency.

# 1. Market Status and Limits

## 1) Analysis of Market Value & Size

According to one of 2018 statistics on the rewards points market, the total number of subscribers of the top 3 reward points companies is close to 80 million; OK Cash bag, South Korea's largest reward point company that provides integrated rewards points service, has 40 million subscribers.

In addition, as of 2018, the market size of South Korea's rewards points exceeded KRW 10 trillion (approximately USD 8.3 Billion), and the top three companies' annual transaction volume reached KRW 55 billion (approximately USD 45.5 Million). The number of people using rewards points is steadily increasing, and many people are using rewards points more actively.

(Unit: KRW/Trillion)

**South Korea's Rewards Points Market Size**
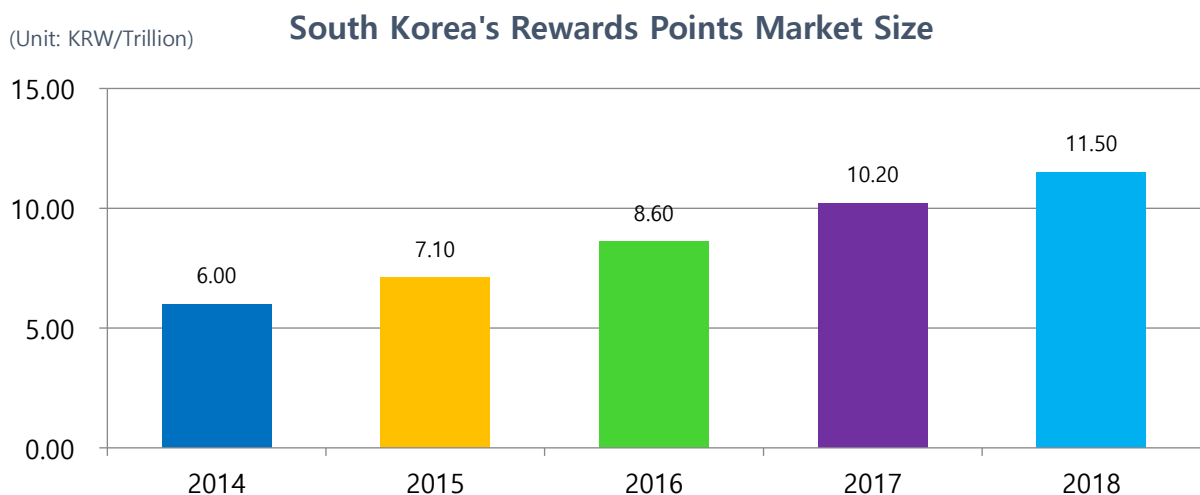


South Korea's most used credit card rewards points market size exceeded KRW 3 trillion (2.4 Billion USD) in 2018.

## South Korea's Reward Points Companies' Status
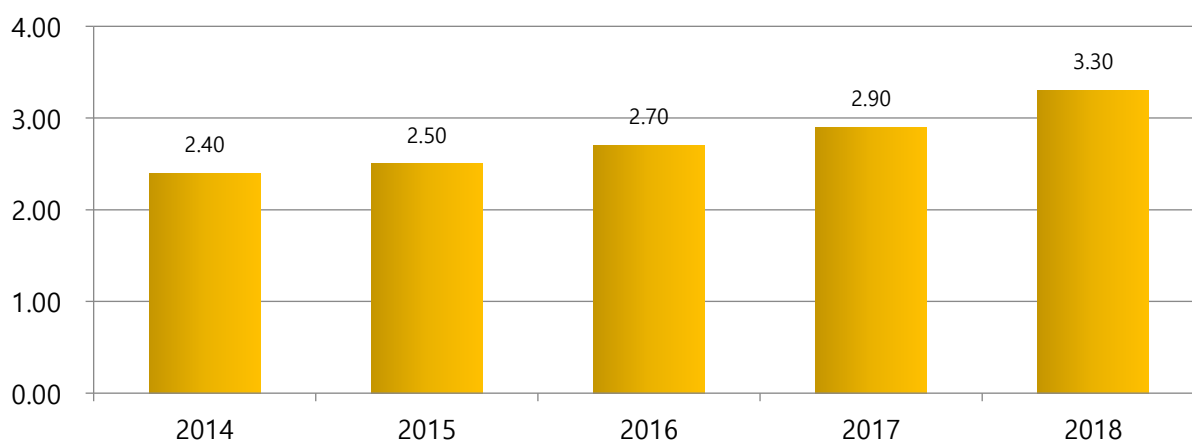


The bar chart above shows that the market size of rewards points in 2018 is over KRW 10 trillion (8.3 Billion USD), but the actual rewards points in use are about KRW 3 trillion, which is 30% of the total market size. Most rewards points can only be used in their own service, and due to market characteristics, the rewards points system is based on company rather than customer. For this reason, it seems that the market size of the rewards points actually used against the market size is not developing.

By discovering these cons, the Chain Square project was able to recognize the potential for niche markets.


## 2) Current market limits

Although the rewards points market and the content market continue to grow, we cannot guarantee whether the rewards points market will also continue to grow. This seems to be because all businesses — companies that issue rewards points, customers who use them, policy authorities that manage the issuance and distribution of rewards points, and content providers that can use rewards points as a revenue source — aim for different interests.

Since the emergence of commodity currencies that previously came in the form of animal skin and salt, the object of money has greatly evolved several times. Commodity money was converted to coins and then banknotes were made, and then people created banks. Following this was the creation of checks.

After a lot of processes to simplify the chart, the full implementation of digital currencies without physical currency is taking place.

With the development of the Internet and information technology, digital currencies, which has been used in various ways, has already contributed decisively to making e-commerce more convenient and fast in the market.

Currency has three functions.
First, the currency developed due to the inconvenience caused by barter exchange acts as a medium for commodity exchange.
Second, in relation to accounting records, it serves as a standard or unit for the price of goods.
And third, it serves as a means of storing values. This feature allows us to use our current purchasing power in the future.

It is widely used by the actors of the economy currently participating in the market and has a function of sufficient currency, but there are means that are not generally recognized as currency. It is "rewards points" that anyone who has purchased an item with this system or used a particular service may know.

Rewards points are paid and accumulated at a certain rate according to the price when a consumer purchases a service or product. In addition, the customer can use the product or service in a company or affiliate that paid rewards points when purchasing a product or service in the future.

Rewards points were first introduced to differentiate the mileages that airlines provide passengers. Currently, rewards points have been recognized by its usefulness in terms of attracting customers, securing loyal customers, and marketing, and have been issued by various companies such as refiners, card companies, catering companies, franchises.

Although rewards points are recognized as a bonus or ancillary function for purchasing goods to consumers, the concept and use are different from the legal meaning.
Rewards points can be interpreted as 'conditional bonds' in that the consumer has the right to claim the benefits of the percentage earned to the operator, and the conditional rights must be guaranteed.

Rewards points are formally characterized as currency.

This is because rewards points can perform all three functions of money: the ability to purchase products, the function as an accounting unit, and the function of value storage.

Currently used rewards points can be recognized as private digital currencies because the issuer is a private institution and most are issued in digital form.
Private digital currencies are issued by private companies and is a means of trading in the form of an online transaction medium. Therefore, the value of private digital currencies, which is only the subject of issuance and guarantee by private companies, is inevitably directly related to the value of issuing companies.

Currently, using rewards points has great efficiency in terms of cost and convenience. Because you don't have to go through a bank to make a transaction, the payment fee is very low or not at all. Unlike other payment methods, the risk of loss is also an advantage. However, the rewards points currently in use have limitations in many ways.

Rewards points issuing agents are centralized, which implies several institutional risks. First, consumers cannot be guaranteed the fulfillment of the terms of use of rewards points, and there is a lack of relevant protection laws that can enforce fair compensation.

This is because the issuing agency is a private company, and it is not even clear whether the centralized system has the intention and ability to accurately fulfill its obligations, and there is no other institutional mechanism to supervise and regulate it.

Second, there is a risk that rewards points in the form of conditional bonds will not be settled. In addition, there is no way to verify that reward settlement can be guaranteed.

Finally, there are risks that can arise from an operational perspective.
It is true that rewards points have property value as currency and bonds.
However, most of the rewards points are issued digitally, and since the issuer manages the rewards on its own, it does not fundamentally solve problems that can occur systematically, such as computer problems.

The current rewards points are private digital currencies, but since the value is fixed, the corporate value cannot be reflected in the currency.
A new form of currency issued by private actors may occur and at first, its recognition may be insignificant and thus the utilization rate may be low, but it will gain trust over time and gradually become widely used as a means of trading in the market.

Several private digital currencies competed in the market and the higher the company's value, the more proportionally it was reflected in the currency.

In addition, as the current information technology is developed, new trading means are continuously generated, and the form is expected to be rewards points and coupons.

Currently, private digital currencies is being issued in large quantities as a cryptocurrency, and the phenomenon in which corporate values are reflected in the currency is prominent.

However, since the rewards points with fixed values are difficult to reflect the value of the company, the rewards points must be given in order to expand their functions as currency and to be competitive with other companies' currencies.

Currently, there is a gap in information between companies that issue rewards points and service or product providers. And customer data and usage data are not shared equally.

Reward Point', which was considered only as an expenditure for marketing to companies in the early stage of introduction, not only has the advantages of marketing and attracting customers, but also creates the value of high-quality data for predicting customer information and purchasing patterns.

This data has become an essential component of the business strategy that determines the size, direction and timing of the business. However, companies that provide products or services are responsible for a large part of the operation of rewards points. However, despite being the subject of operations, they have limited access to this data.

Chain Square is an integrated platform for rewards points, which will provide a stable and convenient opportunity to use and trade by converting rewards points that customers have left unused to RING rewards points.

By collecting customers' distributed rewards points in one place, customers will be able to use RING rewards points, which is the integrated rewards points within the platform.

Through this, customers can enjoy various conveniences and benefits, and companies can also enjoy the benefits of reducing debt and marketing costs of companies that issue rewards points.

In addition, the integrated Reward Points will provide new marketplaces to content providers to create new markets.

The Chain Square platform will expand its business scope to financial companies, airlines, telecommunications companies, refiners, and distribution companies, with partners with experience in developing financial technology and fintech solutions.

Rewards points can be applied to all industries, targeting their customers for business.

And ultimately, the Chain Square platform will build a global rewards points integrated ecosystem, where all economic populations around the world can use rewards points.

# 2. About Chain Square Project

The Chain Square project seeks to solve the technical and institutional limitations of the existing rewards points through the management of rewards points through the introduction of blockchain and tokenized rewards points.

Each company's rewards points system is developed based on different technologies and structures, and it is expected that it will take astronomical cost to interlock the system in a direct manner. The integrated rewards points system of direct connection has a 1:N multi-connection structure, so it is a difficult task so far that there are no cases in the market to implement it.

The Chain Square platform, a blockchain-based rewards points integration platform aims to implement a technology that enables companies to integrate their rewards points into one without having to link customer information. Also, it aims to present as a standard technology for inter-working rewards points system between companies through the platform.

The Chain Square project verifies data on rewards points of customers through the blockchain, and records all information on terms and operation on the blockchain.

Consumers and sellers manage rewards points through mobile terminals, and the rewards points can be used like cash in domestic and foreign credit card merchants through the chain's payment network. All information collected is verified and managed as a blockchain through the chain square platform.

# CHAINSQUARE PLATFORM ARCHITECTURE

Payment System

Token Manager

BLOCKCHAIN

Management System

Other Service

CHAINSQUARE PLATFORM

POINT SYSTEM
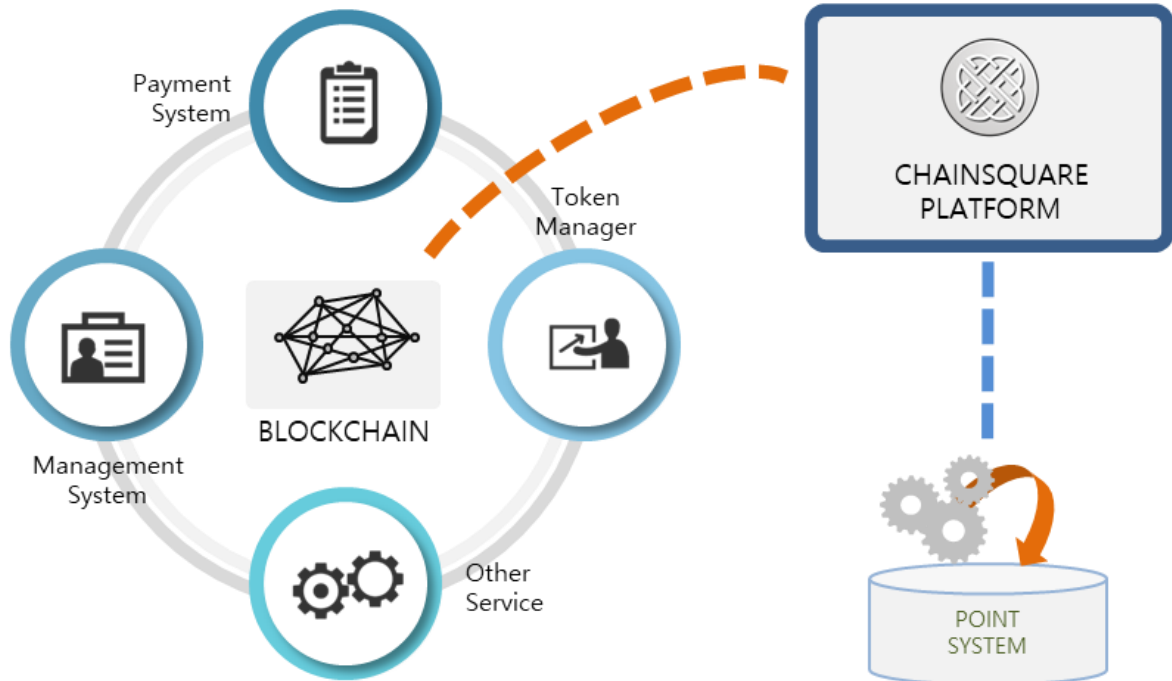
Companies that issue rewards points are obligated to notify customers of the terms and conditions when signing a contract to sign up. Therefore, companies cannot unilaterally change the terms.

In fact, since the implementation of the rewards points system, consumers can do anything about the rewards points, even if the subject of the rewards points operates unilaterally, such as changing the payment rate of rewards points or adjusting the discount rate through rewards points. However, the Chain Square project will secure the means and devices to protect the rights of customers or affiliates by transparently managing rewards points payment rates or discount rates on blockchain. When there are changes or adjustments to the terms and conditions, a record will be made on blockchain. Therefore, the contract between the consumer and the rewards points management entity is guaranteed by a third party through a smart contract, and either side cannot unilaterally change or violate the conditions. Since the terms of the contract are automatically fulfilled, the consumer's rights are guaranteed.
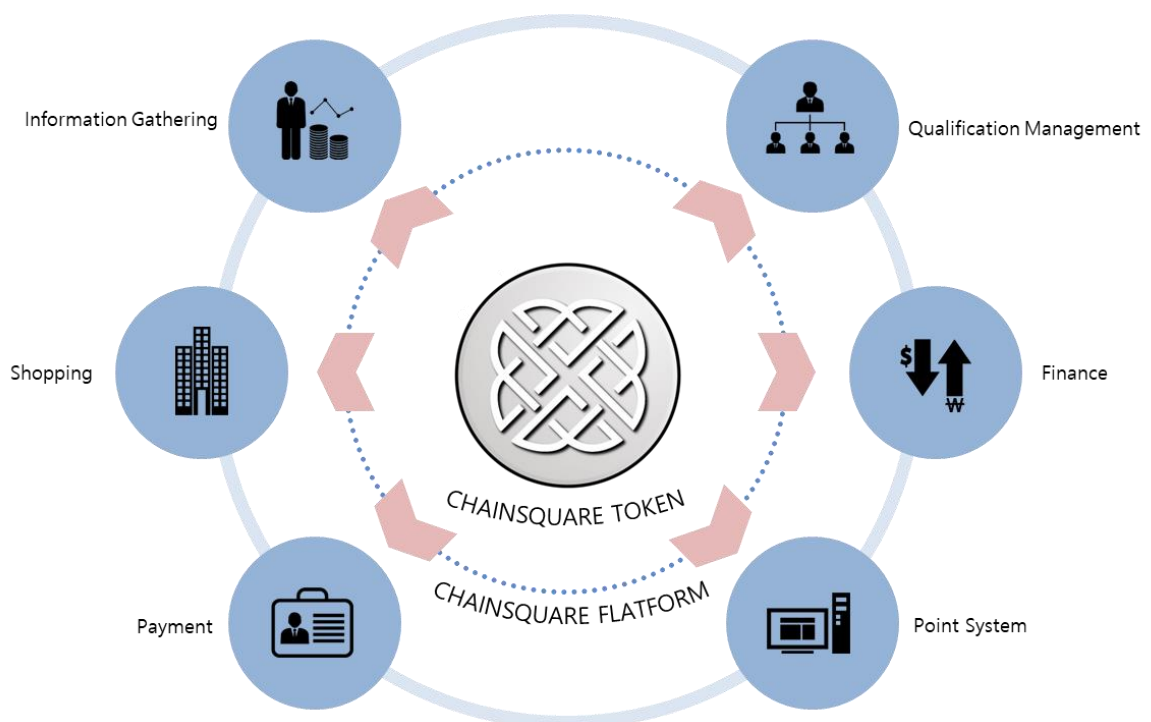
From a technical point of view, a platform built with Chain Square is considered a collection of blockchain technologies applied to important infrastructure elements and services.

In the existing rewards points system, the issuer was the one-sided entity in operating rewards points. This is the reason that the system has had problems such as computational errors or missing information. Rewards points are value assets that are granted to customers in the form of bonds, and must be protected through strong security.

Currently, many of the providers of rewards points are financial companies, and since these systems are operated and maintained as a central management system using servers, they invest a tremendous amount each year in computer management and hacking prevention. By utilizing the distributed ledger of blockchain technology, it is possible to not only solve hacking risks due to central server management, but also minimize costs.

The Chain Square platform is based on the same level of security system construction as a financial company according to the financial security computer network standard, and will apply blockchain technology to it. Through this, the possibility of errors or hacking occurring in the existing centralized system will be prevented in advance.

In Chain Square, when a transaction occurs through a blockchain smart contract, no one can modify the information in the ledger. Therefore, this ensures the safety of information and enables transparent transactions because any institution with qualifications can verify the information.

With the rewards points payment system built on the Chain Square platform, it will help people become happier, healthier, smarter, and help them live in a fairer, more prosperous future. Therefore, companies can utilize more sustainable, competitive and hidden assets based on innovative interfaces.

The Chain Square platform is expected to alleviate the fundamental problems inherent in the existing rewards points market.

The rewards points payment system built with the Chain Square platform can strategically provide added value with a variety of services, thereby eliminating conflicts of interest through transparent blockchain technology, which is the core value of Chain Square.

Chain Square will issue its own coin based on its own protocol on the mainnet by developing its own platform, and create a rewards points token suitable for various industries in the Chain Square smart contract to block the existing rewards points market.

# 3. Composition of Chain Square

**In the Chain Square project, there are three tokens: Chain Square tokens (CHS) that can be freely traded by reflecting the value of the company through the sale of tokens, Cissued on its own mainnet, and Chain Square rewards issued by the CHAINQUARE Token System.**

The CHS token is an ERC-20 based token that can be freely traded on the exchange. This token has value volatility. In addition, it will be compatible with the chain square mainnet coin and rewards points tokens to be developed later, so that the chain square platform can be further expanded. Chain Square Coin (CHSC) can be exchanged for rewards points coins through smart contracts. When the user sends rewards points tokens to the contract, they are exchanged according to the exchange rate.

Chain Square Token (CHS), which can be traded on exchanges, and 'Chains Square Coin (CHSC)', a mainnet coin, are compatible with each other and will serve as a key currency for payment of rewards points.

Rewards points tokens can be used by partners using the Chain Square platform. In addition, indirect transmission and value conversion can be made possible through the exchange, so it will be possible to secure more control over its intangible assets than users of similar systems.



■ CHAINSQUARE COIN(CHSC)
■ POINT TOKEN(POINT TOKEN)
■ CHAINSQUARE TOKEN(CHS)
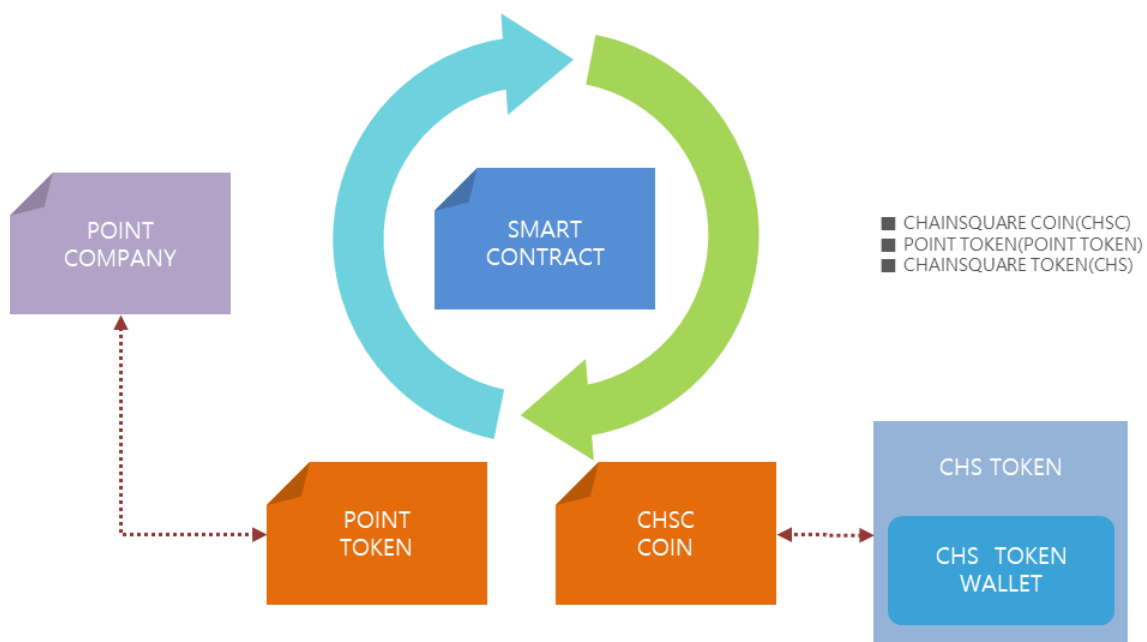
# 1) CHSC & Chain Square tokens 'CHS'

**Purpose & Use**

Chain Square Coin (CHSC) is a unit that constitutes Chain Square and is an independent ecosystem that is not dependent on an existing platform, enabling major activities and transactions.

In addition, Chain Square Coin (CHSC) can be moved and replaced like other similar cryptocurrencies. It can be used publicly for payment.

Chain Square Token (CHS) is listed on multiple exchanges and can be traded by holders in the open market. In the rewards points payment system built on the Chain Square platform, Chain Square Coin (CHSC) is used as the key currency and is compatible with Chain Square Token (CHS).

Chain Square Coin (CHS) is fully integrated with the Chain Square mainnet, and is exchanged for Chain Square rewards points tokens (POINT TOKEN) produced by smart contracts.

**Rewards points tokens (also called POINT TOKEN**) produced by various industries are exchanged exclusively with Chain Square Coin (CHSC) on the Chain Square platform.

Therefore, it is expected that the demand for Chain Square Token (CHS) compatible with Chain Square Coin (CHSC) will increase in proportion to the number of active users.


## Technology Implementation

Blockchain technology is a decentralized database that allows users to use digital ledgers of assets and transactions shared on a distributed network to prevent forgery.

The platform provides the essential and fundamental foundation of a blockchain that embeds Chain Square's Turing-Complete programming language. Anyone can use this language to allow users to write "Contracts" that include the Arbitrary State Transition Functions, which are differently translated according to rules coded.

 Therefore, this will not only make the platforms described above realizable, but will also make it very easy for many other applications we haven't yet imagined.

The basic form of Chain Square Coin (CHSC) can be written in about two lines of code, and protocols related to currency and reputation platforms can be written in around 20 lines of code.

Smart contracts, a kind of crypto box that stores certain values and allows you to get them only when certain conditions are met, can also be built on this platform.

# 2) SMART CONTRACT

## Purpose & Use

Smart contract (SMART CONTRACT) helps payment of rewards points in Chain Square Coin (CHSC), so that a person using various rewards points can access the various industries and trade using distributed ledger technology without an intermediary.

The smart contract digitizes the contract according to each condition, and allows the two parties to agree on the rewards points token (POINT TOKEN) to which each asset is linked to create and execute the contract.

- It functions as a multi-signature, and through this, the operation of funds or contracts can be used only after a certain level of agreement and/or consensus by participants (users).
- It manages agreements between users to a transaction or contract.
- In other words, it manages the transaction details or contract details of 'one person purchased insurance product from another person'.
- This may provide utility for other contracts.
- This can store information such as domain registration information and membership records.

## Technology Implementation

Chain Square Coin (CHSC) smart contract is a blockchain platform that allows various state storage and loop statements, which is a limitation of the Bitcoin scripting platform.

Chain Square Coin (CHSC) includes functions in the form of compiled code in transactions and synchronizes them through the blockchain. At this time, the smart contract is implemented by executing the function expressed as code using the information included in the transaction as the input of the function, and then storing the result in a separate state.

This allows users to create and trade a variety of goods on the Chain Square network by allowing a way to store the state of other digital objects besides the original Chain Square Coin (CHSC).

In the case of Blockchain, which supports Chain Square Coin (CHSC) smart contracts, it will have a transaction storage database that changes the status of the smart contracts and a database that keeps the latest status. At this time, the state of the smart contract can be regarded as a variable used in the corresponding application. The input value to change this is included in the transaction.

# 3) Rewards points token (POINT TOKEN)

## Purpose & Use

The rewards points token (POINT TOKEN) creates rewards points tokens (POINT TOKEN) that will be used in various industries on a platform for distributed applications (DApps). This token is based on the Chain Square platform and is required to use DApp services. At this time, the fee for the transaction between tokens must be paid with Chain Square Coin (CHSC). Developers also distribute rewards points tokens (POINT TOKEN) when providing new DApp services using DApp. Sometimes a service provider sells it directly or trades on an exchange. Users with rewards points tokens (POINT TOKEN) can exchange it with Chain Square Coin (CHS) at any given rate at any time.

## Technology implementation

The Chain Square token platform (CHAIN SQUARE Token Platform) can be used in a variety of industries with rewards points payment systems.

Chain Square's CHAIN SQUARE Token System can be implemented in Chain Square in a much easier way than initially expected. The Chain Square Token Platform (CHAIN SQUARE Token Platform) is a database that performs only one operation.

The CHAIN SQUARE Token System based on Chain Square Coin (CHSC) may have important characteristics that Bitcoin-based currency (i.e., Bitcoin Blockchain) does not have. That is, a user can pay the transaction cost directly in the currency used for the transaction.

This characteristic can be achieved through the following process.

In order to execute the contract, the user must keep the chain square coin (CHSC) in the balance as much as the cost to pay the sender.

Users should use Chain Square Token (CHS) to "activate" their wallets. The amount of money obtained through each contract is exchanged each time with a Chain Square token (CHS), and once charged, the Chain Square Token (CHS) can be reused.

The fees paid during the contract can be paid by the service provider or user according to the policy of the service.

# 4. Services for Growth and Improvement

The Chain Square platform aims to create a virtuous cycle business ecosystem that benefits both the company and the customer providing rewards points. Therefore, they will provide a blockchain-based 'rewards points integrated platform' to rewards points providers and customers, and a 'market place with sufficient purchasing power' at the same time to companies that provide rewards points.



**POINT INTEGRATED SYSTEM**

**FINTECH TECHNOLOGY**

**BLOCKCHAIN TECHNOLOGY**

**Point integration**

Integrate distributed customer points without using

**Point payment**

Pay with points held by credit card merchants worldwide

**Point conversion**

Convert coins such as existing points or CHS into point tokens
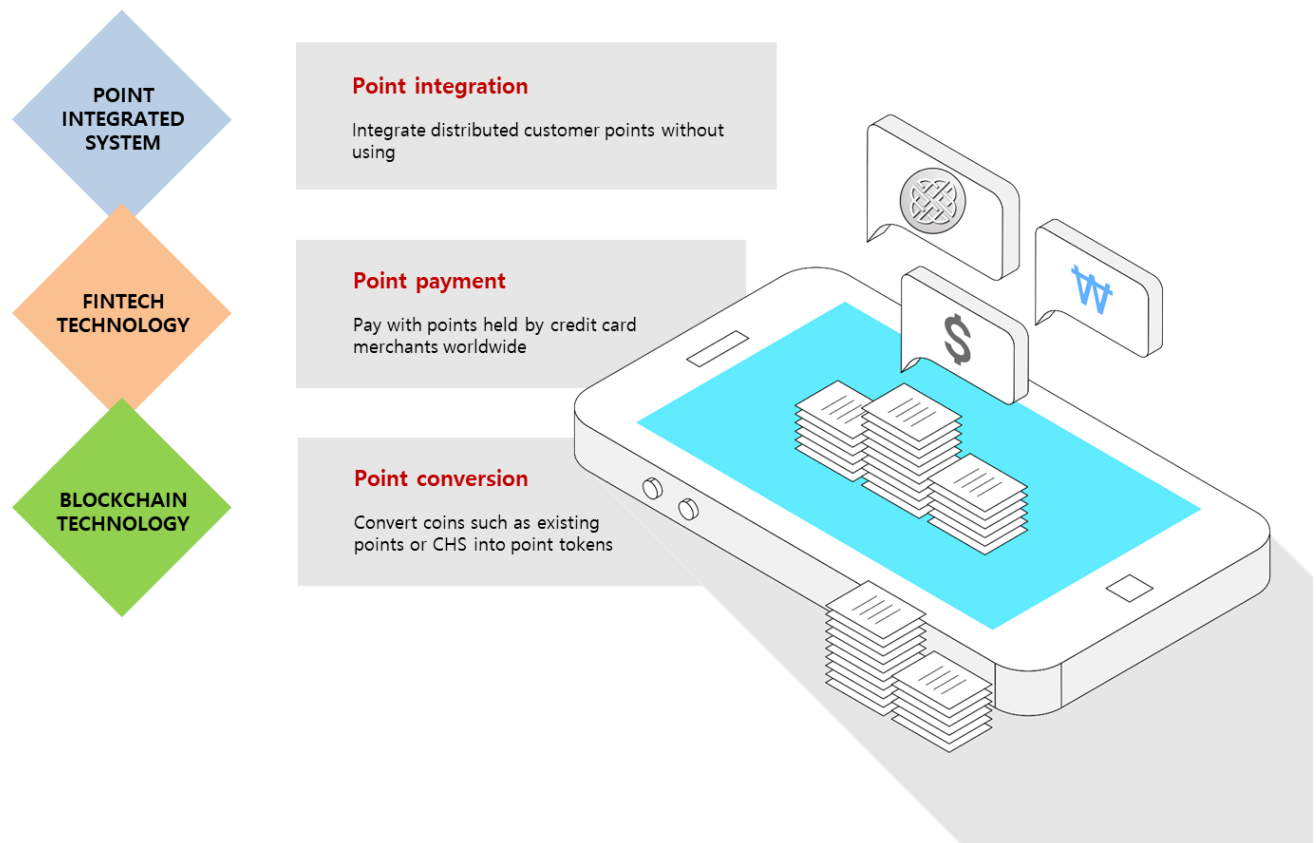
In order to successfully operate the ecosystem, the Chain Square platform will incorporate rewards points integrated architecture and blockchain technology, as well as fintech technology and big data processing technology. This will enable them to keep track of their customers' needs and cooperate with various rewards points providers, which will eventually meet their needs.

Users will convert rewards points of companies that have partnered with the Chain Square platform into rewards points tokens. And customers can use the Chain Square platform's payment partners as converted rewards points tokens to use it like cash at credit card merchants around the world.

The rewards points token is a utility token for activating the chain square platform, and the customer rating is determined within the chain square platform according to the number of customers held, and the customer receives various discounts and content usage benefits.

Chain Square Token (CHS) holders can receive rewards points tokens from airdrops by participating in various event programs of the Chain Square platform.

In addition, real estate and art NFTs are introduced to develop the chain square platform for the purpose of point payment-based investment means (increasing value) for the expansion and development of the chain square platform.

In the case of real estate NFT, the following logic is held as a venue for boosting consumption to respond to the COVID-19 situation through commercial space subscription services and revitalizing payment finance.

**Cooperation partnership**

| | | |
|---|---|---|
| Franchise Company | Commercial space subscription service | Management Service Organization [MSO] |

Affiliate-specific services

| prospective franchisee | prospective franchisee | prospective franchisee | An opening doctor | An opening doctor | An opening doctor |
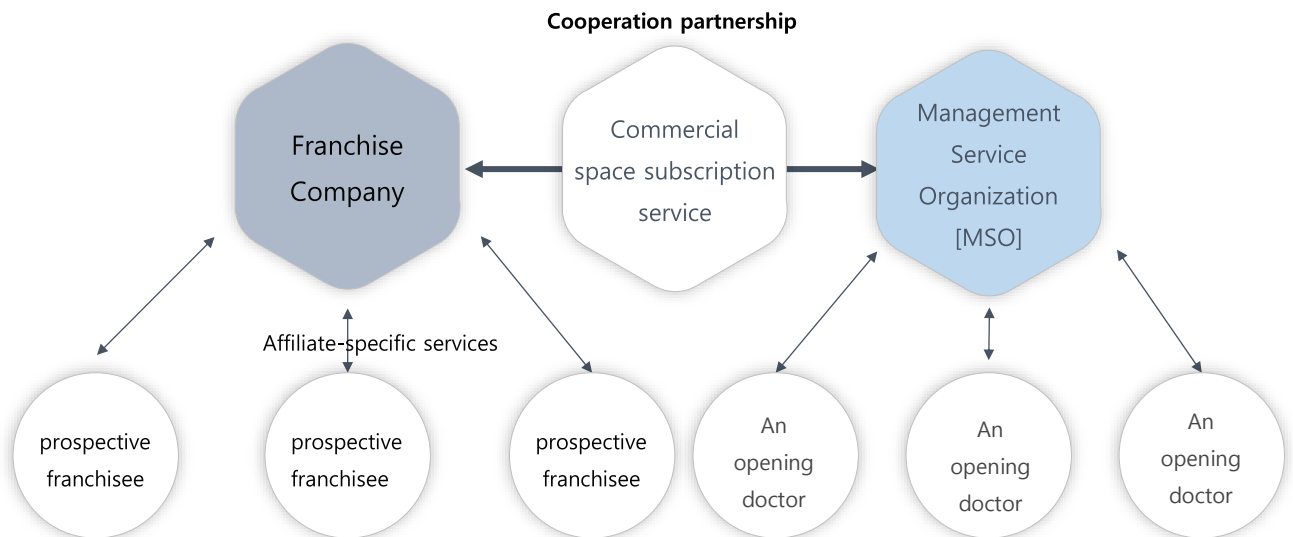
We don't apply to general companies or individuals

Affiliate-specific services

By preempting or securing a commercial space, converting the commercial space into an area unit NFT, and introducing a point payment system in the commercial space to secure a CHS utilization site, and holding the NFT due to Partial revenue from commercial space subscription fees, some profits are returned.

The core technologies of the service are as follows.



| Payment Integrated System [with hometax, Unipass] |
| Tax alternative System [with home tax, UNIpass] |
| Relational distribution Payment System |
| Relational Interests-Chain Platform |
| Object Digital Subscription System |
| Smart Wallet |
| PAYAGER Platform |
| Retail / Payment |
| Advance / Solution |

Robo Payment   Big Data & My Data

Smart Tax Payment
Tax Certification
Smart Payment
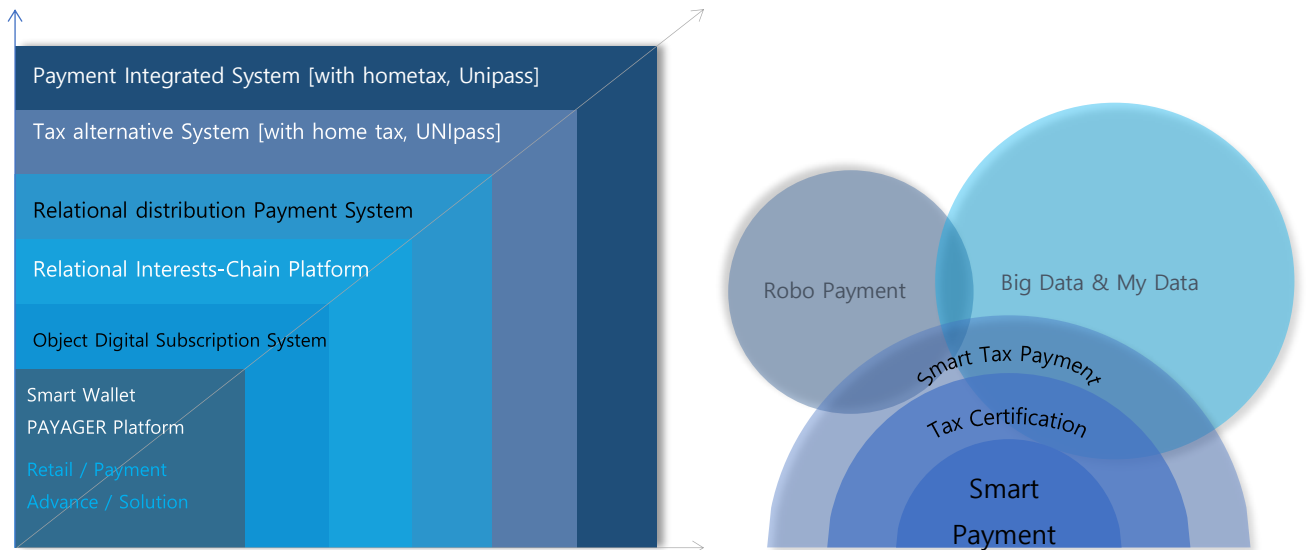
In the case of art NFT, the payment method follows the chain square platform and generates a curation index by scoring the response patterns of participants reflecting the needs of the NFT market through AI.

Smart Contract Template 30



13 개 NFT 아이템 생성

Smart contract 30

If a transaction of art occurs in a wallet holding the item, profits from the token stake in the sale price will be distributed.

In addition, it will expand limited edition luxury brands and sports brands to non-replaceable items as well as artworks in the future, and build a metabus space for this purpose.

In the end, the chain square platform establishes a decentralized system that can trade NFT or irreplaceable real assets based on the point payment platform, allowing it to be used as a space for free value exchange.

Users are converted into natural participants by using these platforms and purchasing and paying, and through this, profits are distributed as participants or increasing assets.

# 5. Chain Square Platform Implementation Technology

The various services of the Chain Square platform include various blockchain-based technologies, and components that fit their roles are operated in an organic linkage. Therefore, this platform is built with stable and proven technologies, and the structure of the chain square platform is as follows..
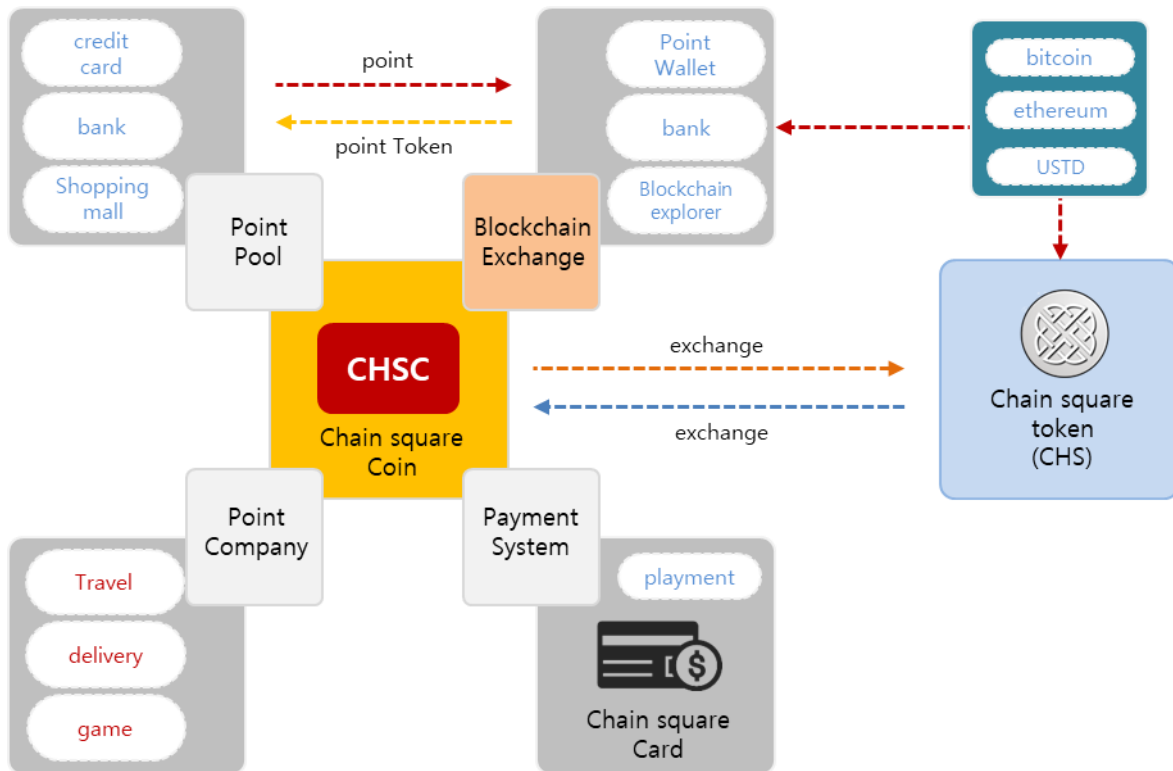


The structure of the Chain Square platform will be implemented in a structure that is organic on the blockchain network, so that users and operators can conveniently use it.

Permission management possible
Blockchain configuration function

Lightweight container base
Smart Contract execution environment

CHAINSQUARE APLs, SDKs, CLI

| MEMBERSHIP | BLOCKCHAIN | TRANSACTIONS | CHAINCODE |

**Membership Services**
- Registration
- Identity Management
- Auditability

**Blockchain Services**
- Consensus Manager
- Distributed Ledger
- P2P Protocol
- Ledger Storage

**Chaincode Services**
- Secure Container
- Secure Registry

Event Stream

CHAINSQUARE Services

Various types
Consensus algorithm applicable

Asynchronous event processing

# 1) Overview

The Chain Square platform consists of two parts: the Service Layer and the Blockchain Layer.

In the Service Layer, a system structure is designed in which customers of the rewards points provider (MP) can use digital content. Among them, the Infra Layer includes security solutions and payment systems that meet the security standards of financial companies. It analyzes the customer's usage pattern data and provides an administrator function to view the desired content for customers at a glance.

# ① CHAIN SQUARE Platform Architecture

The CHAIN SQUARE Platform consists of three layers and multiple modules and systems.

The Application Layer is an entry point for the participants of the Chain Square ecosystem to use the service, and users can enter the service anytime, anywhere through the Smartphone App and PC App.

The Point Token System is a system for linking and managing rewards points providers such as financial institutions, shopping malls, and delivery companies. In 'Alliance admin', contracts and general management of rewards points providers are handled.

'Interface admin' manages the computational interface for linking rewards points with various rewards points companies.
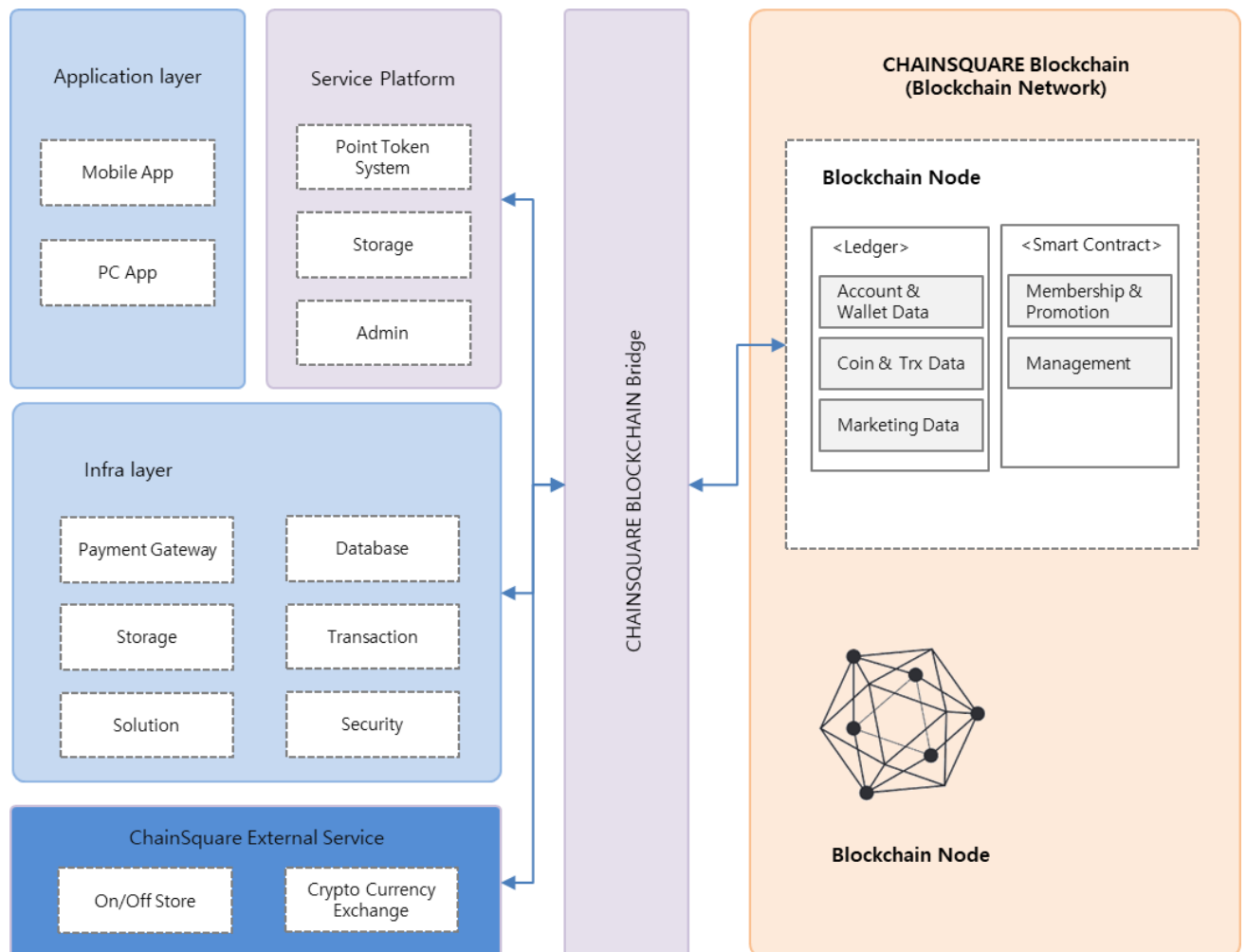


## ② CHAIN SQUARE Blockchain

This is a fundamental component of all services, and stores POINT TOKEN and transaction ledger. Currently used consensus algorithm called Proof of Work (POW) has a problem in transaction verification, and does not apply to non-dependent transactions.

The POW consensus algorithm is not suitable for an environment that requires real-time transactions in a way that the transaction throughput and block generation rate are inefficient.

Chain Square's basic consensus algorithm, which was initially launched, is implemented in a PoS (Proof of Stake) method. This method is being promoted by the Ethereum Foundation and related developer communities under the name Casper (Proof of Concept).

According to the recent test results, Shasper (Sharding+Casper) with Sharding and Casper applied improved from 7 tx/sec to 13.410 tx/sec.

When applied to the second layer chain in the future, performance is expected to expand from hundreds of times to as many as several thousand times.

Chain Square's Main Chain will be upgraded from the current PoW implementation to the Shasper version in the future. Based on this, **POTG (Proof of Trustworthy Group)**, its own consensus algorithm, will be upgraded to a version optimized for the rewards points platform.

The POTG consensus algorithm complements one of the shortcomings of EOS/DPOS, "the point where the entire consensus can be distorted by a representative node that is not reliable."

| POW | POS | DPOS | POTG[1] |
|---|---|---|---|
| Enables to determine a block creator, depending on the computing power. | Block creators decide randomly in proportion to the amount of tokens | In proportion to the number of tokens the user has, the user can participate in the election of a certain number of representative nodes | Creates a block by a trusted public group in service |
| | Users with a large number of tokens can participate in creating more blocks | The consensus process for blocks, is entirely delegated to the representative nodes. | The consensus process for blocks, is entirely delegated to the representative nodes (C20)+Verifies through nodes. |
| Creates an ecosystem that primarily focuses on miners | Few people actually participate | Creation of a transaction-oriented ecosystem/ Representatives do not work | |

The Blockchain Layer can be traded on exchanges and consists of three coins: Chain Square Token (CHS) with variable prices, Chain Square Coin (CHSC), the main currency of Main Chain, and POINT TOKEN, rewards points token The Chain Square platform runs on the Main Chain.

The main chain of the Blockchain Layer provides membership authentication (KYC) of the actual chain square rewards points platform, smart contract of rewards points, payment and settlement of rewards points, Bounty processing, and CHAINAQUARE Wallet functions.

Two-Way Pegging technology is used to convert external tokens and coins into rewards points tokens through Main Chain and Interchain Solution.

However, the chain square platform may change the technical architecture structure of the main chain depending on the development progress and characteristics of the external main network engine in the future.

# ③ CHAIN SQUARE Service Architecture

### ▪ Service APP

The service APP is for managing rewards points used by users, and in the APP, the user can manage the accumulation and payment of rewards points owned by the users themselves. And it can provide an algorithm that analyzes the user's preferences and characteristics, which effectively manages rewards points.

### ▪ Settlement Management System

The settlement management system is to settle the user's rewards points usage history to the rewards points provider. This refers to the settlement system that provides the rewards points provider by calculating the details of the user's rewards points accumulation or payment.

### ▪ Customer management system

The customer management system is for managing personal information, rating, and bonus benefits of users who use the Chain Square service APP, and users can use the service after user authentication. Grades are designated according to the member's usage performance, participation, and loyalty, and bonus benefits are provided to customers, such as airdrops of POINT TOKEN according to the grade.

### ▪ Partnership Advertising System

The partnership advertisement system exposes advertisements of companies affiliated with Chain Square to users of the Chain Square service APP, and rewards users who watch the exposed advertisements with rewards points tokens.

### ▪ Rewards Points Exchange System

The rewards points exchange system is an integrated rewards points exchange system that enables the exchange and management of rewards points provided by rewards points providers with Chain Square rewards points tokens. This system exchanges the exchanged rewards points tokens with Chain Square Coin (CHSC), which can be used as a payment method at domestic and foreign credit card merchants through a payment company affiliated with Chain Square.

# ④ EVM (Ethereum Virtual Machine)

EVM is a runtime system environment for Ethereum smart contractors. Smart contracts are coded in a development language called Solidity and are written in binary code (ABI Code) through the Solidity compiler and then run on EVM.

At this time, in order to use EVM, there must be a gas fee, which is linked to the ETH price. The transaction fee is calculated by Gas Limit x Gas Price, and in order to deploy the application, the user must have a certain amount of ETH.

## ⑤ NFT Trading Application
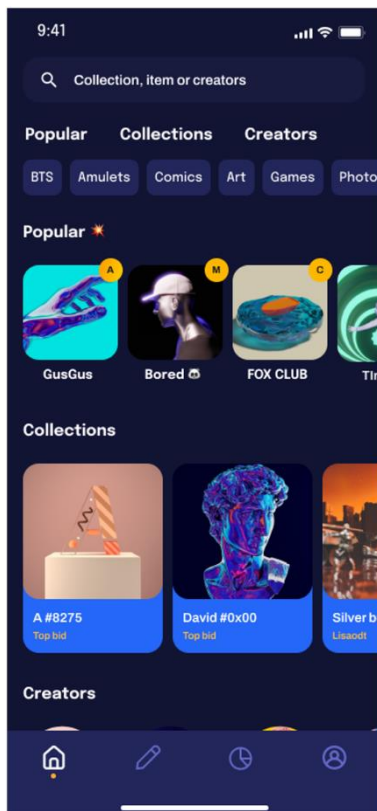


**Classification**

- Popularity

- Collections

- Creators

**Collaboration Genre**

- Art

- Photos

- Games

- Comics

- Amulet

- Sports

- BTS
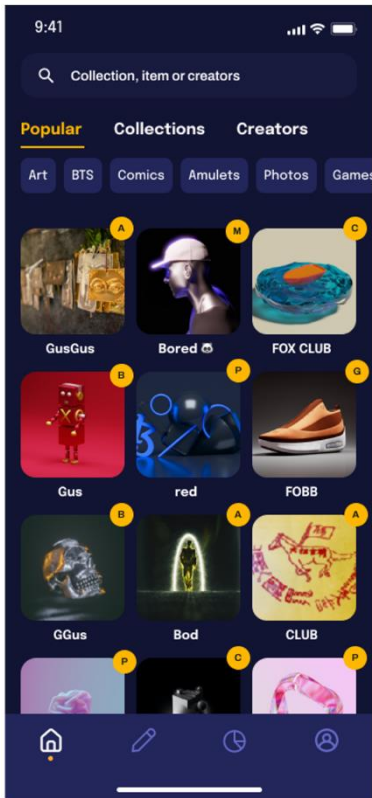
## Popularity Curation by AI based daily scoring

Curation Index is generated by scoring the response pattern of participants reflecting NFT market needs through AILike

- Purchase pattern

- Category relative key score

- Creater reputation
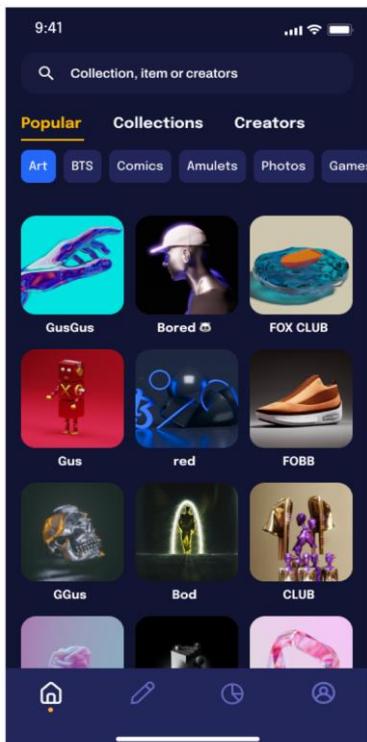


## Collaboration Genre Curation by Rule based score

Curation with basic policy-based scoring that relies on the way genre operators operateFreshness

- Market Hotness

- Curator Recommendation

- Crator reputation

- etc

## Create New NFTs

Image, Video, Audio or 3D Mod

+
Image

Name

Item name

External Link

https://youesite.io/items/250

Description

Provide a detailed description of your item

Collection

Select collection

Supply

# of copies that can be minted. No gas costs..
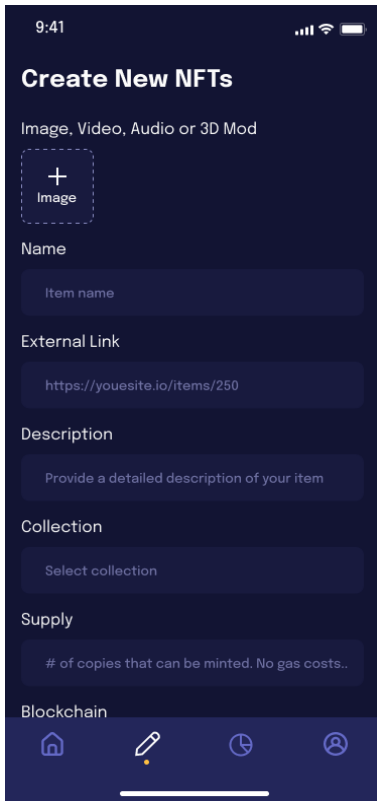
Blockchain

**Item**

- Add drop + Image, Video, Audio, 3D Mod

- Name

- External link

- Description

■ Key word (Genre....)

■ Legal class

■ Storage

- Collections

- Supply

- Blockchain (Bitcoin, Ethereum....)

## Assets

**4,129,192**  KRW
+2,191,021 KRW (100%) all time

Available COOC

**192,012**          (192,012,000 KRW)

Items Collected                420 >

**320**                          **100**
On Marketplace            Not on Marketplace
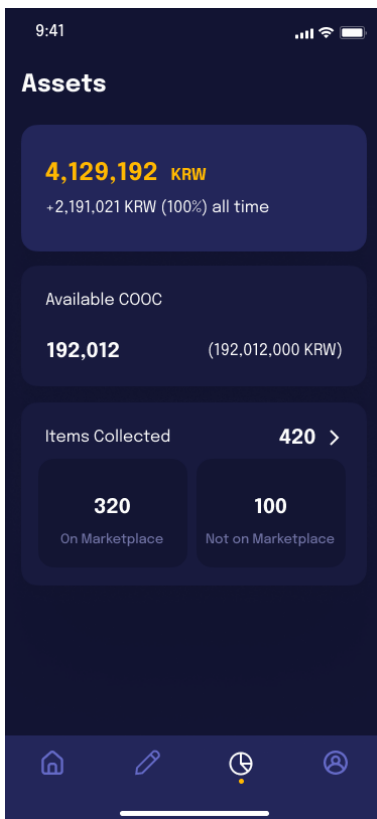
**My Asset Valuation**

- KRW (or Other Fiat Money)

- CHS Balance

- Items Collected

■ Marketplace

■ Blockchain Safety

**Items Collected** 420

Super Aiden
AndrewLuck
...
♡ 2

Super A
Andrew
...
♡ 2

Matlon
Luck
...
♡ 2

Super Aiden
AndrewLuck
...
♡ 2

---

**Items Collected** 420

Sell

Transfer

Order Picture Frame

Make Profile Picture

Copy Link

✕ Close

♡ 2

---
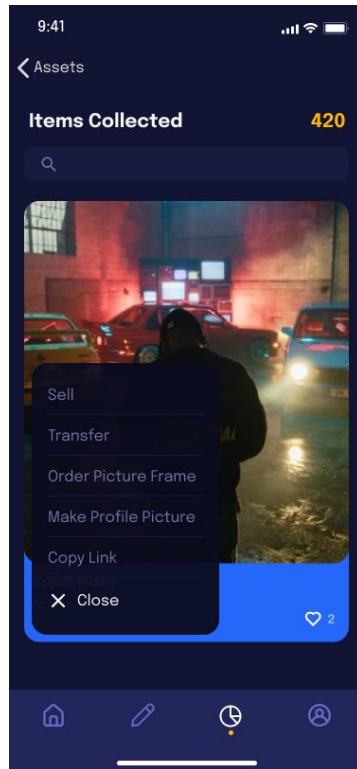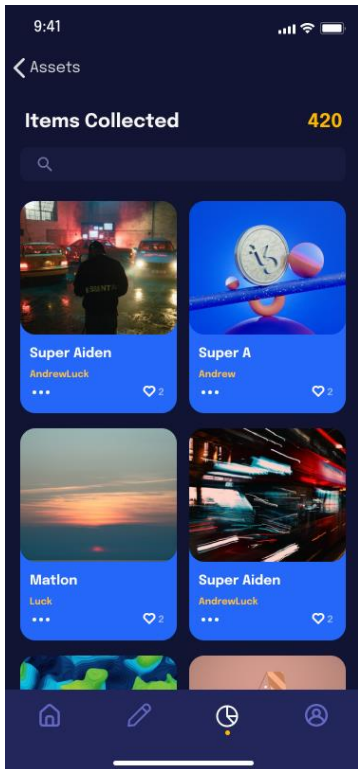
**Item Collected – Detail**

- Sell

- Transfer

- Order Picture Frame

- Make Profile Picture

- Copy Link

---

**Account**

**Dr. Seuss**
0xc6b0562605d35ee710138402b.. ⧉

**420**
Collected

**78,100**
Created

Following  >

Linked Bank Account  >

Transfer Cash  >

Settings  >

Log Out  >

---
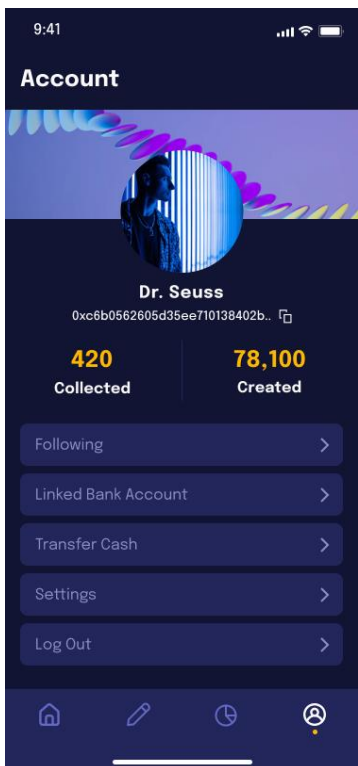
**Account**

- Name(Nickname)

- DID(Chs ID : Public Hash)

- Items Collected

- Items Created

- Following

- Linked Bank Account

- Transfer Cash

- Settings

# 2) Chain Square Token (CHS)

Chain Square token is a token issued by ERC-20, the Ethereum token standard, and the total issuance is set at 100 million. It can be exchanged for Chain Square Coin (CHSC) in the Chain Square Wallet.

- **CHAINSQUARE TOKEN(CHS) SOURCE DEVELOPMENT**

```solidity
pragma solidity ^0.4.21;


// ownership contract
contract Owned {
    address public owner;


    event TransferOwnership(address oldaddr, address newaddr);


    modifier onlyOwner() { if (msg.sender != owner) return; _; }


    function Owned() public {
        owner = msg.sender;
    }


    function transferOwnership(address _new) onlyOwner public {
        address oldaddr = owner;
        owner = _new;
        emit TransferOwnership(oldaddr, owner);
    }
}
```

```solidity
        owner = _new;

        emit TransferOwnership(oldaddr, owner);

    }

}


// erc20

contract ERC20Interface {

        uint256 public totalSupply;

        function balanceOf(address _owner) public constant returns (uint256 balance);

        function transfer(address _to, uint256 _value) public returns (bool success);

        function transferFrom(address _from, address _to, uint256 _value) public returns (bool success);

        function approve(address _spender, uint256 _value) public returns (bool success);

        function allowance(address _owner, address _spender) public constant returns (uint256 remaining);

        event Transfer(address indexed _from, address indexed _to, uint256 _value);

        event Approval(address indexed _owner, address indexed _spender, uint256 _value);

}


contract CHAINSQUARE is ERC20Interface, Owned {

        string public constant symbol = "CHS";

        string public constant name = "CHAINSQUARE";

        uint8 public constant decimals = 18;

        uint256 public constant totalSupply = 1000000000000000000000000000;


        bool public stopped;


        mapping (address => int8) public blackList;


        mapping (address => uint256) public balances;

        mapping (address => mapping (address => uint256)) public allowed;
```

```solidity
    event Blacklisted(address indexed target);

    event DeleteFromBlacklist(address indexed target);

    event RejectedPaymentToBlacklistedAddr(address indexed from, address indexed to, uint256 value);

    event RejectedPaymentFromBlacklistedAddr(address indexed from, address indexed to, uint256 value);



     modifier notStopped {

        require(!stopped);

        _;

    }


// constructor

        function CHAINSQUARE() public {

                balances[msg.sender] = totalSupply;

        }


// function made for airdrop

        function airdrop(address[] _to, uint256[] _value) onlyOwner notStopped public {

            for(uint256 i = 0; i < _to.length; i++){

                if(balances[_to[i]] > 0){

                    continue;

                }

                transfer(_to[i], _value[i]);

            }

        }


// blacklist management

    function blacklisting(address _addr) onlyOwner public {

        blackList[_addr] = 1;

        emit Blacklisted(_addr);

    }
```

```
function deleteFromBlacklist(address _addr) onlyOwner public {

        blackList[_addr] = -1;

        emit DeleteFromBlacklist(_addr);

    }


// stop the contract

         function stop() onlyOwner {

        stopped = true;

    }

    function start() onlyOwner {

        stopped = false;

    }


// ERC20 functions

        function balanceOf(address _owner) public constant returns (uint256 balance){

                return balances[_owner];

        }

        function transfer(address _to, uint256 _value) notStopped public returns (bool success){

                require(balances[msg.sender] >= _value);


                if(blackList[msg.sender] > 0){

                        emit RejectedPaymentFromBlacklistedAddr(msg.sender, _to, _value);

                        return false;

                }

                if(blackList[_to] > 0){

                        emit RejectedPaymentToBlacklistedAddr(msg.sender, _to, _value);

                        return false;

                }


                balances[msg.sender] -= _value;

                balances[_to] += _value;
```

```solidity
                emit Transfer(msg.sender, _to, _value);

                return true;

        }

        function transferFrom(address _from, address _to, uint256 _value) notStopped public returns (bool
success){

                require(balances[_from] >= _value

                        && allowed[_from][msg.sender] >= _value);


                if(blackList[_from] > 0){

                        emit RejectedPaymentFromBlacklistedAddr(_from, _to, _value);

                        return false;

                }

                if(blackList[_to] > 0){

                        emit RejectedPaymentToBlacklistedAddr(_from, _to, _value);

                        return false;

                }


                balances[_from] -= _value;

                allowed[_from][msg.sender] -= _value;

                balances[_to] += _value;

                emit Transfer(_from, _to, _value);

                return true;

        }

        function approve(address _spender, uint256 _value) notStopped public returns (bool success){

                allowed[msg.sender][_spender] = _value;

                emit Approval(msg.sender, _spender, _value);

                return true;

        }

        function allowance(address _owner, address _spender) public constant returns (uint256
remaining){

                return allowed[_owner][_spender];

        }
```
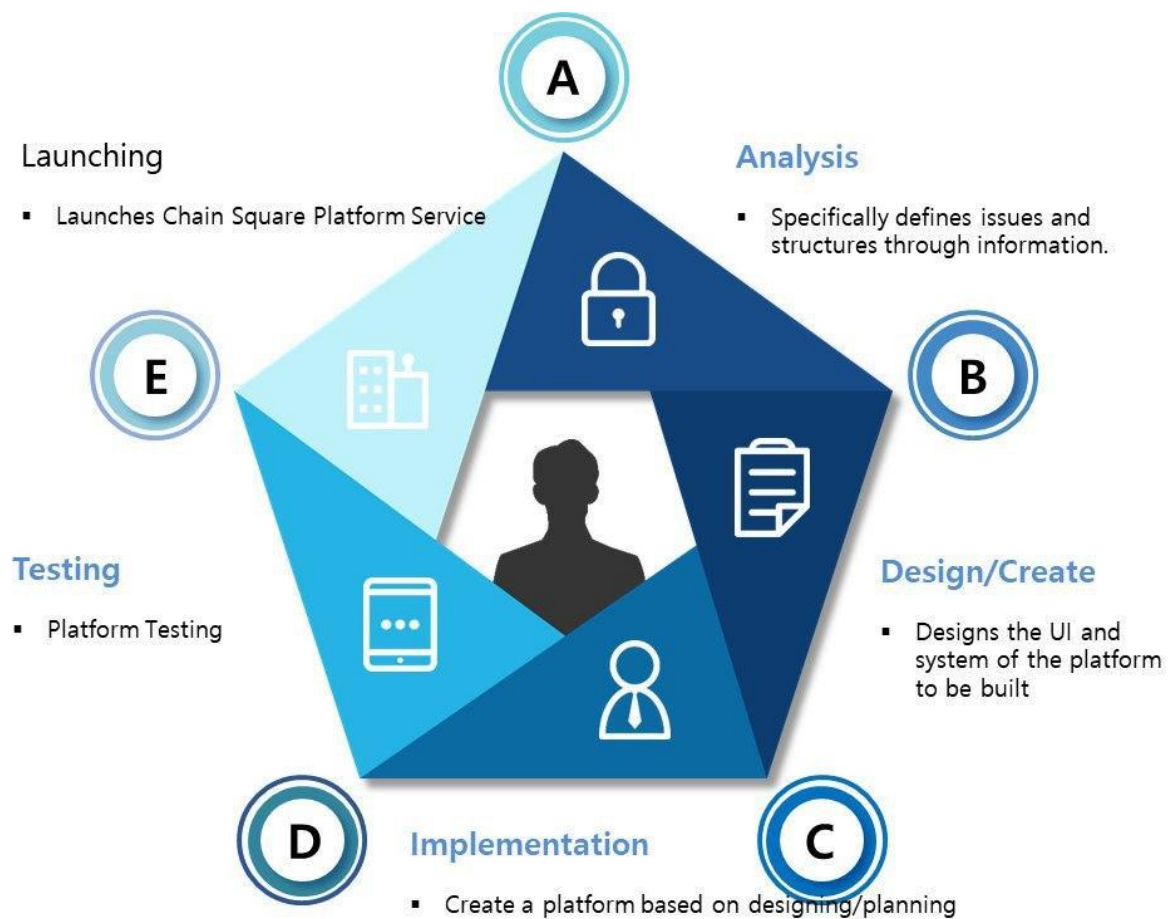
# 6. Schedule

The Chain Square team is made up of Fintech Solution Engineers, Blockchain Engineers, and Marketing Professionals, along with rewards points and business-experienced experts in various fields.

The chain square development team has long experience in the development of the digital financial system, and is recognized for its technology and know-how in the industry, and systematically performs process management, quality assurance, and product management according to its own developed Chain Square platform.

**A**

**Launching**
- Launches Chain Square Platform Service

**Analysis**
- Specifically defines issues and structures through information.

**E**

**B**

**Testing**
- Platform Testing

**Design/Create**
- Designs the UI and system of the platform to be built

**D**

**C**

**Implementation**
- Create a platform based on designing/planning

## 2020 Q1

- Implements a Chain Square project
- Forms Chain Square team with experts from various fields of finance and development etc.
- Establishes Chain Square Foundation

## 2020 Q1

- Designs and builds Chain square platform
- ICO after issuing Chain Square Token (CHS)
- Listing Chain Square Token (CHS) on the global exchange listing

## 2021

- Develops Chain Square Platform
- Develops Chain Square Mainnet
- Develops Chain Square Smart Contract
- Partnership with Rewards points companies

## 2022 Q1

- Launches a pilot service for Chain Square Rewards Points Platform
- Launches a pilot service for Chain Square Rewards Points Payment System
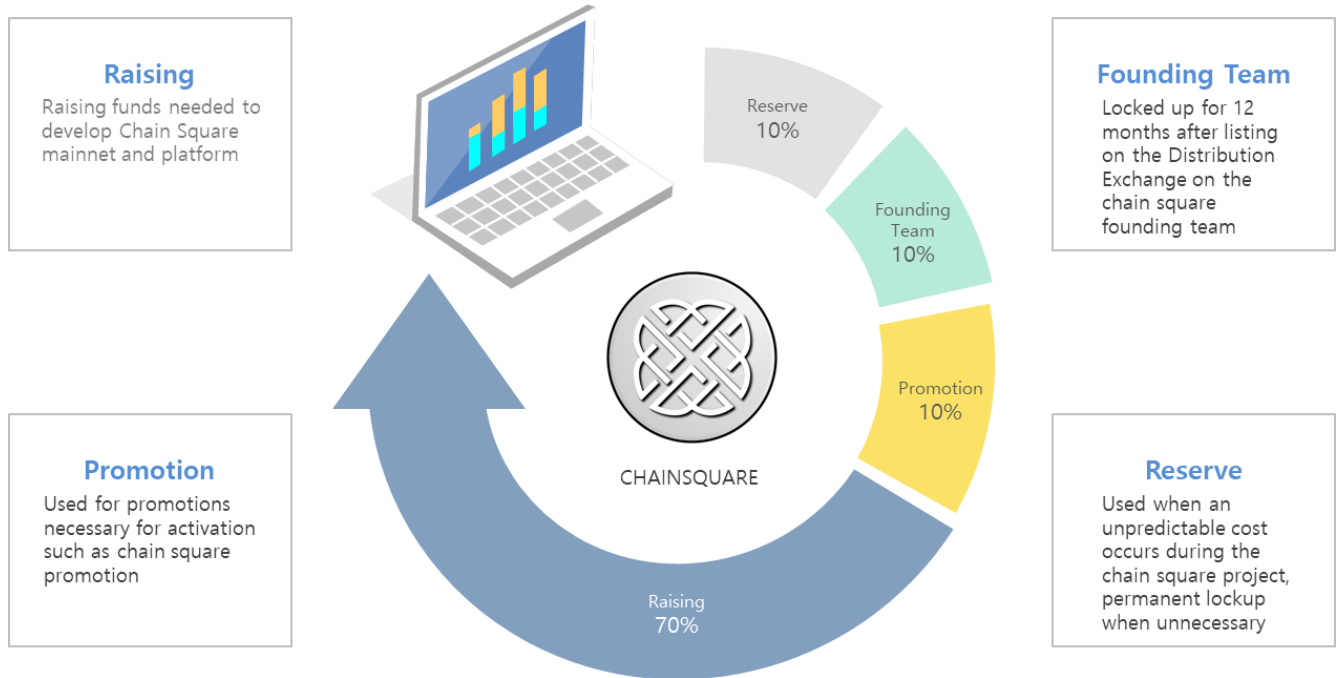- Launches the official service of Chain Square

## 2022 Q3

- Business partnership with credit card companies
- Develops interlocking payment system with online/offline credit card merchants

## 2023

- Launches the official service for rewards point and payment system that can be used globally

# 7. Issuing Chain Square Token (CHS)

For fundraising, participants receive 70.000.000 Chain Square Tokens (CHS), which is 70% of the total issuance (100.000.000 CHS).

**Raising**
Raising funds needed to develop Chain Square mainnet and platform

**Founding Team**
Locked up for 12 months after listing on the Distribution Exchange on the chain square founding team

**Promotion**
Used for promotions necessary for activation such as chain square promotion

**Reserve**
Used when an unpredictable cost occurs during the chain square project, permanent lockup when unnecessary

Reserve
10%

Founding
Team
10%

Promotion
10%

Raising
70%

CHAINSQUARE

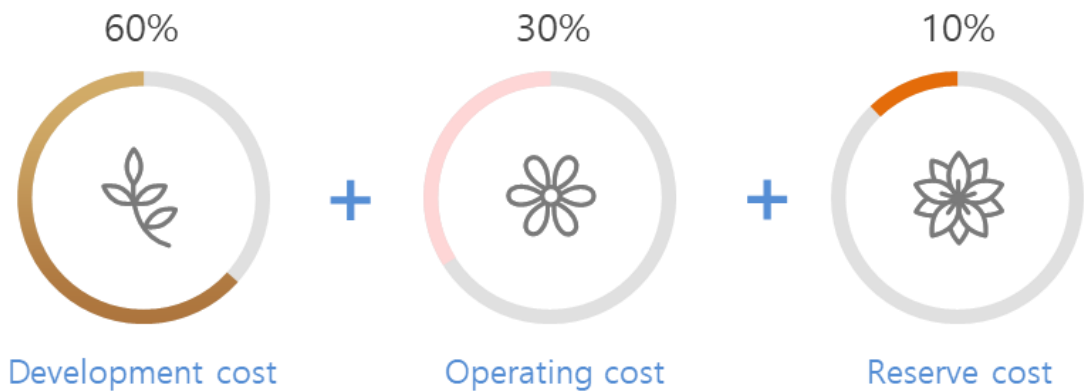The funds raised by the sale of Chain Square Tokens (CHS) will be used to develop and support Chain Square technology.

# 8. Chain Square Token (CHS) Sale
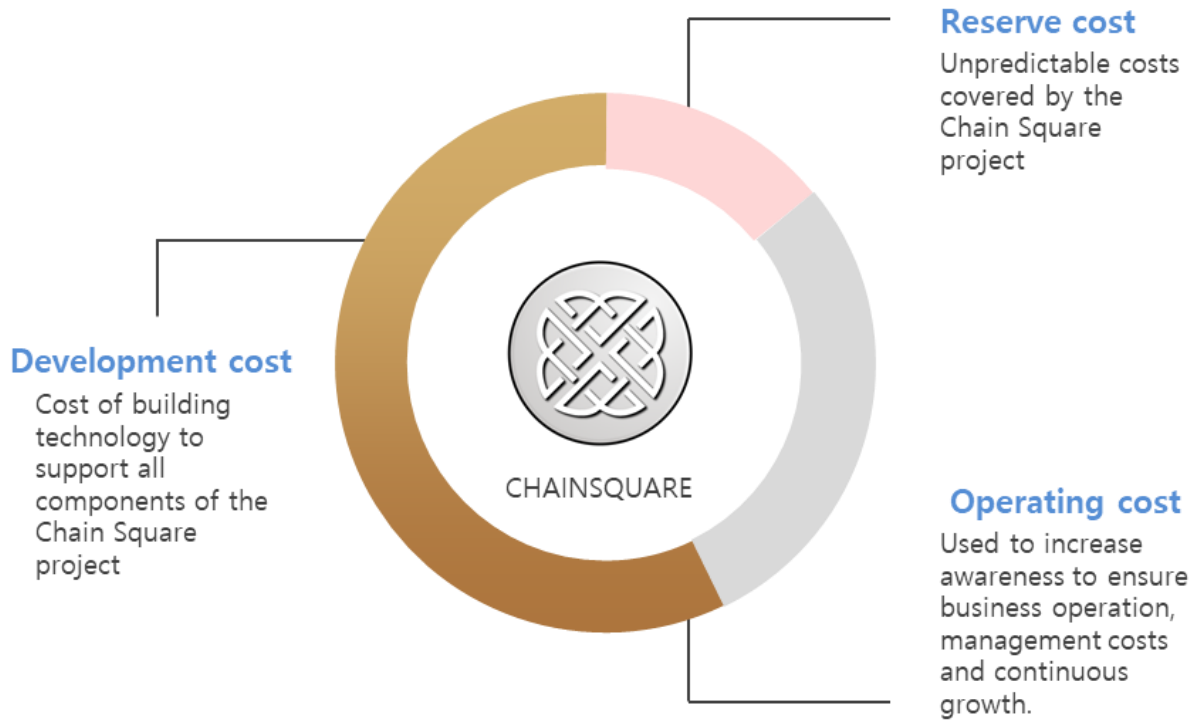
**1st Private Sale**

- URL: www.Chain Square.io
- Min. Transaction amount = 8.00$ (**Accepts:** Crypto Currencies)
- Rule : KYC(Know-Your-Customer). AML(Anti-Money Laundering)
- Sale schedules will be updated later.

# 9. Funding Plan

The amount raised to create the Chain Square platform will be used as follows.

**Reserve cost**
Unpredictable costs covered by the Chain Square project

**Development cost**
Cost of building technology to support all components of the Chain Square project

CHAINSQUARE

**Operating cost**
Used to increase awareness to ensure business operation, management costs and continuous growth.

60%     30%     10%

Development cost  +  Operating cost  +  Reserve cost

# 10. Chain Square Team

The Chain Square team is made up of experts with years of experience in financial system development, and they understand the financial business processes and put customers security first.

The team plans to develop rewards points providers' technical diversity issues according to a development methodology that standardizes the process, reducing trial and error and maximizing performance.

Chain Square platform, which has a friendly partnership with top-notch financial solution development, blockchain development, content business, and online professional marketing groups, and is developing its core services and businesses based on this.

## CEO / Lee Jae Hyeok

Media Hub CEO

Chainsquare CEO

Former) Dong Seoul Duty Free Shop Marketing Director

Former) Gain Income CEO

Former) Shinsegae E-mart Team manager

## CTO / Eric Lee

CHAINSQUARE Senior Researcher

Sellmon Technology CTO

Card Point System

BlochChain Partners Main Developer

## CMO / An Hyung Sik

CHAINSQUARE Senior Researcher

EEN cosmetic CEO

ES cosmetic Executive Director

ES global Vice-president


## Dave An

CHAIN SQUARE Senior Researcher

Joined Smart City main chain

Tsinghua University / Master of Computer Science (MCS)


## Kim Jong bu

CHAINSQUARE Researcher

Zipdoc / Director

Herit / Manager


## JANG HA RI

Working at equity management head office of HOAHN Inc.

SFA. SHINHAN FINANCIAL ADVISOR

Certified Investment Manager

Certified Derivatives Investment Advisor

Certified Fund Investment Advisor

Certified Securities Investment Advisor

Bachelor of Mathematics, Duksung Women's University

## Lim Chang Bin

Bachelor of Economics, Incheon National University

Currently working in the division of Investment
Management of Hoahn Inc.

## Sung Seung Hwan

Bachelor of Business Administration at Temple University

Former) Management team at Mansun Inc.

Former) Planning team at Green MS Inc.

Former) Sales team at GSGM

## Kim Jeong Won

Majored in Automation System

at Dongyang Mirae University

Production/QC&QA at LAMAX Inc.

Working in the technical sales department of KOREA CCS

## Son Chan-wool

Bachelor of Civil Engineering from Yeongdong University
Currently working at Korea Agricultural Cooperative
Marketing Inc.

## Advisor / Ryu Yung Soo

Cynergy Global (IT Consulting) CEO

GPM (VR Theme Park) / Global Chief Advisor

ENDO Protocol Singapore / Ambassador Korea

Former) CMO of KG Mobilians Inc.

Majored in Business Administration, University of Maryland