

PIVN

PIVN WHITE PAPER

PIVN WHITE PAPER CONTENTS

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01

Overview

Members of society now do all the activities over the Internet. They do many activities such as work, leisure activities, shopping, delivery, and travel using the Internet, users store their personal information in many places to use the service, and large platform operators build big data based on personal information and dominate the market. Life has become convenient and prosperous due to various new services every year, but there are also inconveniences and problems.

- 1 If personal information is changed, it is difficult to change personal information of all services.
- 2 Financial and mental damage caused by personal information leakage.

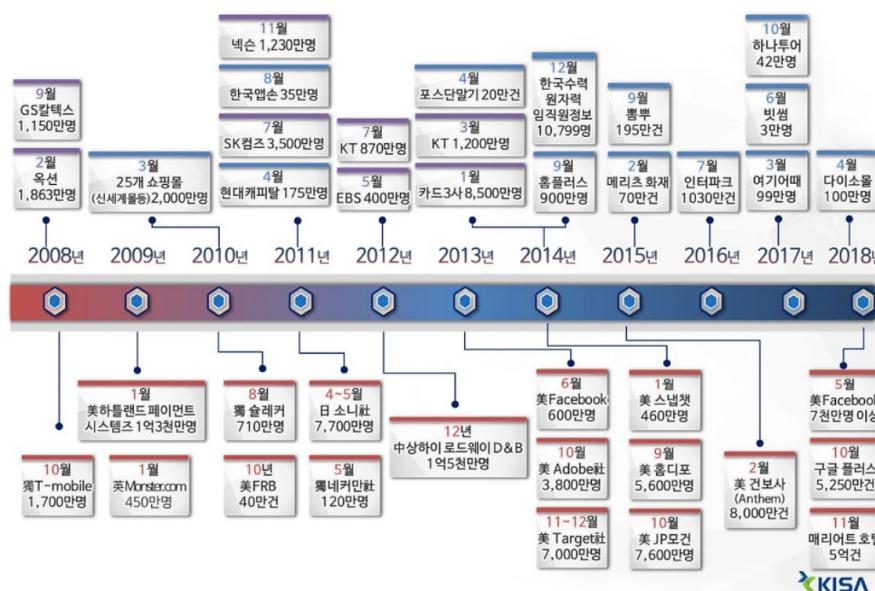
Increasingly, various services are released, and users must enter and subscribe to personal information to use the service conveniently, and when changing personal information, numerous personal information for each service must be changed one by one. Since the protection of personal information depends on individual service subjects, personal information was leaked due to service hacking and consent to use third-party information, causing personal damage and social damage, spreading to social problems. The problem of personal information leakage, which has recently been a continuous issue in Korean society, needs a solution as leaked personal information is used for crimes, making social order difficult, and information can be re-identified and cause other criminal damage. In addition, at a time when Web 2.0 is becoming more active beyond the era of Web1.0, and when Web 3.0 is about to be implemented, personal information leakage becomes serious as individuals participate in various web contents in the Web 2.0 environment. Accordingly, not only personal damage, but also family and social scope are expanding. Personal information protection is a necessary part, and this part should be prepared to regain the rights of users for companies operating large platforms that use personal information indiscriminately before entering the Web3.0 era.

「Home Number」is a system created by seeking solutions for such unnecessary personal information changes and social problems which is personal information protection. It is a platform to manage and protect personal information through 「Home Number」, protect personal information, identify individuals online and regain legitimate rights in the upcoming Web 3.0 era.

02

Background

2-1 Personal information infringement damage



<Source : Timeline of personal information leakage incidents, G-PRIVACY 2019 Yonggyu Park KISA Team leader's presentation>

Every year, personal information leaks continue around the world. The extent of damage caused by personal information leakage cannot be accurately predicted, and the leaked personal information is used for various crimes. Individuals who suffer financial and mental damage from name theft, voice phishing, and businesses are also severely damaged in corporate management due to reliability, damage to corporate image, and compensation. At the same time, individuals and companies are being damaged, while the country is also suffering from the decline in the

national brand, such as the problem of overseas exports of the IT industry and the credibility of the e-government. The scale of personal information infringement due to the development of IT technology is increasing, and as a result, the scope of damage spreads, resulting in additional secondary and tertiary damage. Accordingly, it is most important to prevent personal information infringement in advance.

2-2 Data monopolization by large platform operators

With the development of IT technology, the scope of use of the Internet and the time to stay on the web have increased, and many services are being used by entering personal information. In the case of platform management companies that provide services, big data is created based on the personal information of users who use the service and used it to generate profits, and through this, the size of the company is growing.

Disrupting all industries

	g	a	f	a
TELECOM & IT	Google Fiber	Apple Sim	WhatsApp	Cloud Drive
HEALTH	Calico	HealthKit	Move	amazon.com Marketplace
RETAIL	Shopping express	iBeacon	Facebook "Buy" Button	amazon.com Grocery Delivery
ENERGY & UTILITIES	nest Smart home	Solar Power	internet.org Internet.org project	Fulfilment by Amazon
MEDIA & ENTERTAINMENT	Play	iTunes Radio	Oculus	twitch Gamers Video platform
FINANCIALS	Wallet	Apple Pay	Friend-To-Friend Payment ¹	amazonpayments Payments API
MOBILITY, TRAVEL & LEISURE	Car	CarPlay	Messenger + Uber Integration ¹	amazoncloudplayer + Media app for connected cars

¹Rumoured to be launched soon

11

<Source : nsuchaud-digest (<http://www.nsuchaud.fr/2015/02/gafa-disruptin-all-industries/>)>

A representative example of this type of company is Google. Google provides free services of various contents to individual users. No advertisements can be found in the search page window. Providing such a powerful service for free to many users

can be a big loss for companies, but it is possible because the company has greater profits by creating and using big data based on individual search contents. In addition, social content platforms such as YouTube and Instagram also generate profits. The platform seems to pay for creators, but it only shares as much as the company decides among the platform's profits, and to maximize it, it is dominating the market through more advertisements and data through big data using consumers' personal information. It has been a long time since the large platform business has become a top, and with the influx of many users, they are earning huge profits from their business using personal information.

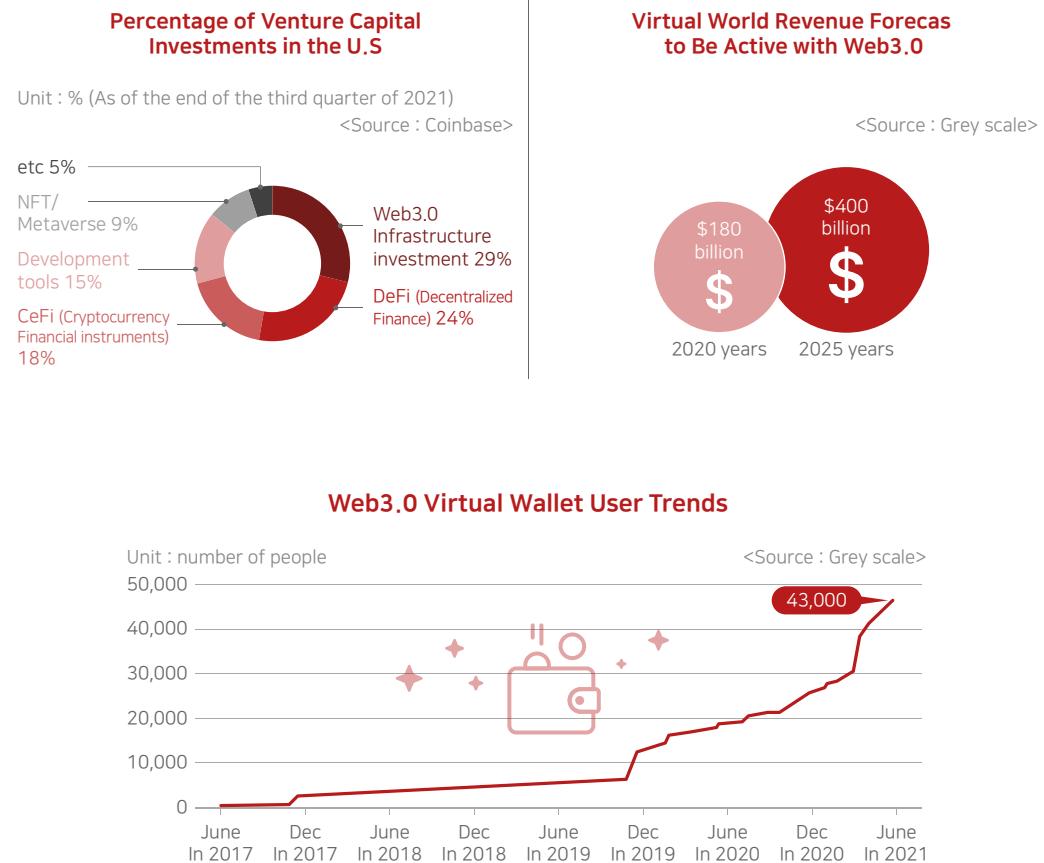
2-3 Web3.0 & IPFS

Web3.0 was created in 2014 by Ethereum co-founder Gavin Wood. The biggest advantage is that there is no central control, and artificial intelligence can provide customized services to individual users. Unlike the existing Web 2.0, it is not stored on a central server, but data is distributed and stored, so no one including the state or institution can control it, and hacking, forgery, and tampering are also difficult. Its core technology is IPFS (Interplanetary File System), which divides and stores files into distributed storage file systems.

Web Distinction and Characteristics by Generation

<Source : Industry comprehensive>

	Web 1.0	Web 2.0	Web 3.0
Communication method	Read only	Read and write	Read·Write·Own
Media	Fixed Text	Mutual content	Virtual economy
Operating entity	Company	Platform	Networking
Infrastructure	a personal computer	Cloud·Mobile	Blockchain Cloud
Operational rights	Decentralization	Centralization	Decentralization



Web3.0 is a creator-centered platform. The platforms mentioned above have all the data and have benefited as designated by the platform operating company. However, in Web3.0, the creator can only own the copyright of the content through NFT, and it is not possible to copy or modify other than the owner, so the creator can also take the benefits completely.

03 Mission

3-1 Personal information protection

As explained above, the Internet is very beneficial to our lives, but one of the problems behind this is that if we change personal information, we must change it individually in all the services we use, and there is a risk of personal information leakage.

✓ Solution

To solve this problem, 「Home Number」 can use the service with 3 digits of country code + 8 digits of personal number and no need to store personal information on the corporate platform. There is only one 11-digit number of 「Home Number」 and it is issued and certified by NFT.

1 Number

We can use all services with convenience if we have just one Home number.



Personal information connected to the 11-digit number of the 「Home Number」is stored in an IPFS (InterPlanetary File System) distributed file storage method, making it difficult to forge and tamper with, and specialized in security and protection.

Country code



Personal number



11 Digits

It converts to an 11-digit safe code
with country code(3 digits)
+ personal number(8 digits).

3-2 Global All-in-one shipping platform

Currently, when purchasing from overseas Internet shopping, the address should be translated into English or local language for delivery. Occasionally, there are accidents such as wrong address input and delivery. To solve this problem, communication in the local language is required, and in some cases, the product cannot be received again, resulting in time and financial damage.

✓ Solution

Using 「Home Number」to prevent misdelivery to incorrect address and contact information of buyers, and prevent leakage of personal information. Business can also handle tasks quickly. With this accuracy and safety, large distribution companies are currently introducing a 「Home Number」delivery system in Korea. As more users flow in, the ecosystem will be more active and more beneficial to users.

3-3 Preparing for the future Web3.0

With the development of IT, the Web environment has also continued to develop, and Internet technology continues to develop due to the pursuit of users and companies. Web3.0 has already been applied and used in some places (such as steamit) and is expected to be used in more places. Now, we must prepare as creators as well as protect personal information. Personal information also has the right to choose whether it is provided as a creative material. We should be prepared in advance and enjoy the benefits of Web3.0.



✓ Solution

So, what should we prepare for the Web 3.0 era? Companies need to expand the platform that will lead the Web 3.0 era to major business areas and provide next generation services to consumers that lead the industry paradigm shift that the Web 3.0 era will bring. Decisions should be made wisely with a comprehensive and long-term perspective in anticipation of changes in the industry that Web3.0 will lead.

The two typical advantages of Web 3.0 are as follows.

-
- 1 Interplanetary File System
 - 2 Creators-centered Platform
-

The 11 digits of the 「Home Number」 are made of NFT, so the owner's personal information can be stored and used without direct input of personal information on the service platform. While protecting personal information through NFT, compensation for using personal information on large platforms can also be easily received and used.

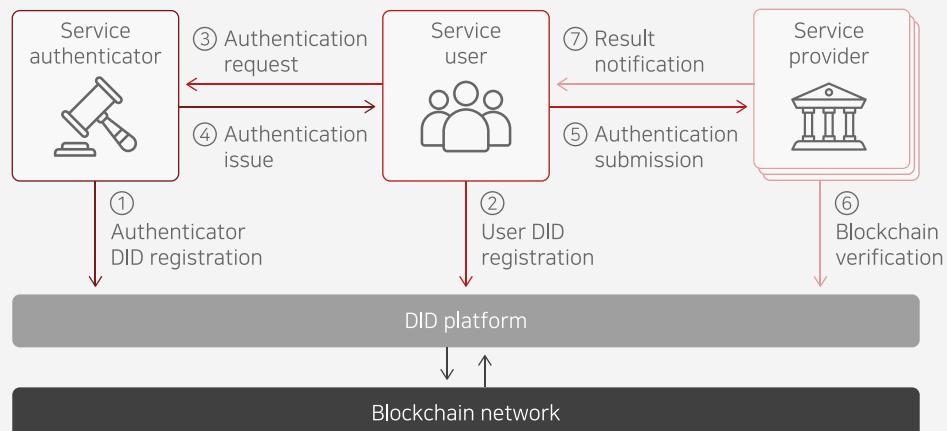
The 11 digits of the 「Home Number」 are distributed NFT that stores personal information, and only one exists. It can be used as a unique ID representing an individual on the web and is a means to actively protect personal information. With the advantages of blockchain, which is opened but it can hide personal information, it will be used in many places, including shopping and delivery, as well as compensation for the use of identity authentication and anonymous information.

3-4 DID(Decentralized IDentifier)

Blockchain-based DID (Decentralized IDENTIFIER) is an electronic identity verification technology that allows individuals to have complete control of their information without being controlled by the central system and stores personal information in a user's devices so that only the information is selected and provided when information authentication is required. Currently, DID is attracting attention as an alternative technology for the past public certification method, and it is said to be a "self-sovereignty proof" that is expected to have legal effect as a complementary relationship with electronic signature technology with legal effect. Convenience and personal information security are representative advantages through the blockchain's "zero-knowledge proof" method.

It is expected to be used in Web3.0 in the future, and individuals can provide their information selectively without being dependent on the central system of large platforms, so it will be possible to block it through full control.

✓ Solution

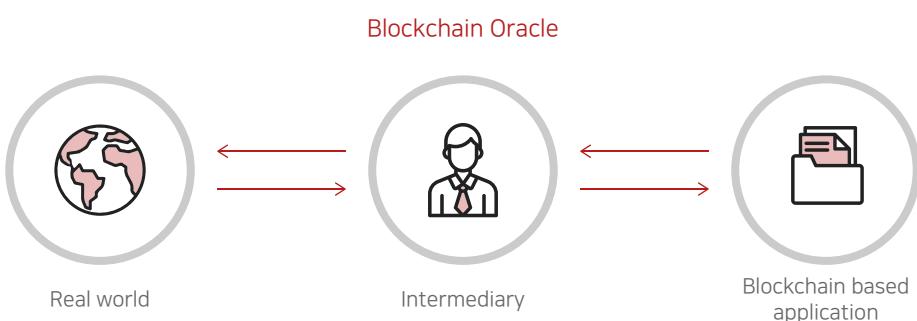


The 「Home Number」 service was also developed as an identity verification solution that can be used in Web 3.0, and aims to provide minimum necessary personal information to solve personal information leakage while securing transparency, continuity, and interoperability by using blockchain technology.

Through NFT, the world's only home number service, it aims to develop into a solution that allows many people to manage personal information more conveniently and safely and solve rewards which are the core of Web 3.0, at once, and this area is also expected to have great potential in the future.

3-5 Smart contract technology

Blockchain Smart Contract is one of the most important opportunities for blockchain to move from the first generation to the second generation, and it is a technology that allows contracts to be made between each other without a third certification authority. In more detail, it refers to the concept of protocolizing contract benefits and benefits in return, storing them in software and hardware in advance, and determining whether conditions are satisfied in the process of implementing the contract by machine like computer, instead of human, so that a third certification authority is not required. It has become possible to practically implement smart contracts on the Ethereum main net based on blockchain, and various types of smart contracts are currently being used on blockchain. Smart contracts are evaluated to have implemented decentralized since it does not need a third party or institution with excellent security and trust which the blockchain pursues. However, it still has the problem of Oracle (external trust agency), which acts as a conduit between blockchain applications and the real world.



<Source : <https://www.womaneconomy.co.kr/news/articleView.html?idxno=206101>>

 Solution

Decentralization of the blockchain does not involve a broker, there is no brokerage fee paid to the platform, and there is no card payment fee because it is paid with cryptocurrency. The biggest advantage is the reduction in brokerage costs through automated decentralized software systems that do not require human intervention. If there is blockchain technology that has become an intermediary, we can make safe transactions without existing shopping platforms such as Amazon, which must pay brokerage fees.

In the 「Home Number」 service, the buyer enters the home number on the platform and transfers the PIVN token to the blockchain escrow wallet. After checking the deposit, the seller prints out the invoice from the 「Home Number」 system and sends the goods to the courier, and the courier delivers the goods to the customer and sends the delivery completion information from 「Home Number」 system to the escrow system, and the blockchain escrow system automatically sends the PIVN token to the seller. This allows sellers to create relatively high profitability with no fees and to easily handle business with the 「Home Number」 service, and buyers can trade simply and safely without complicated membership or payment procedures. In this process, 「Home Number」 serves as a blockchain oracle (broker) that receives product arrival information from courier companies around the world and provides it to blockchain applications.

04 「Home Number」 Service&Technology

4-1 Introduction of 「Home Number」 Service

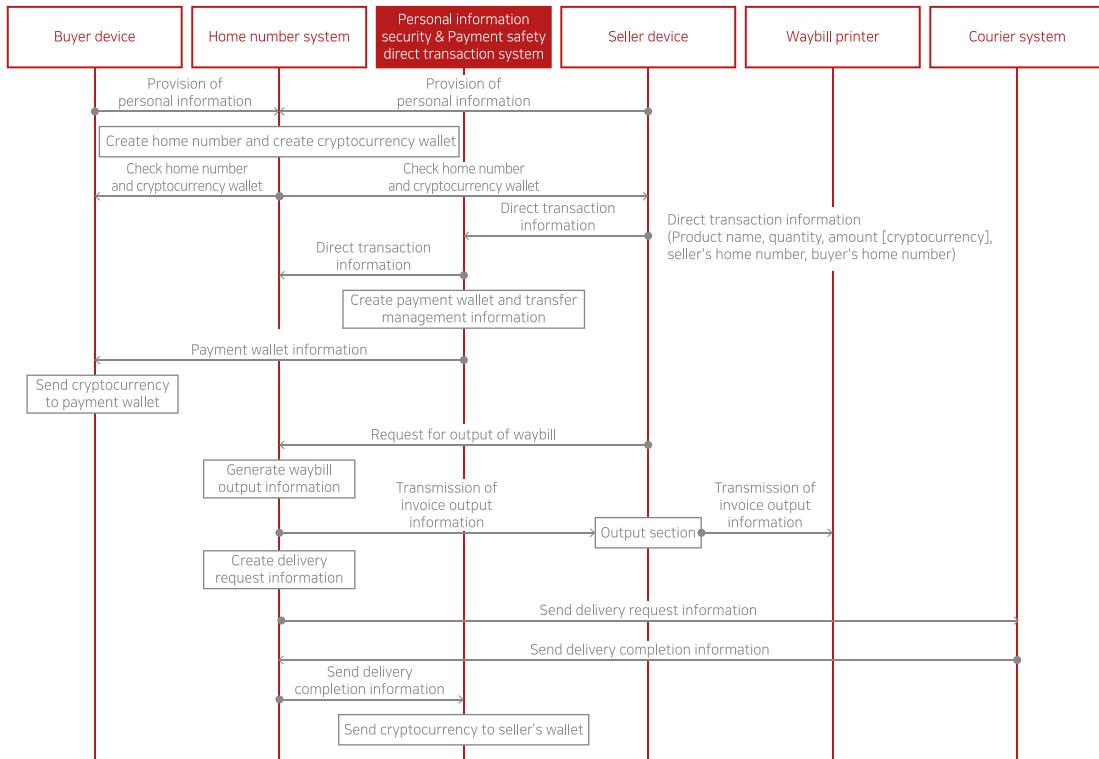
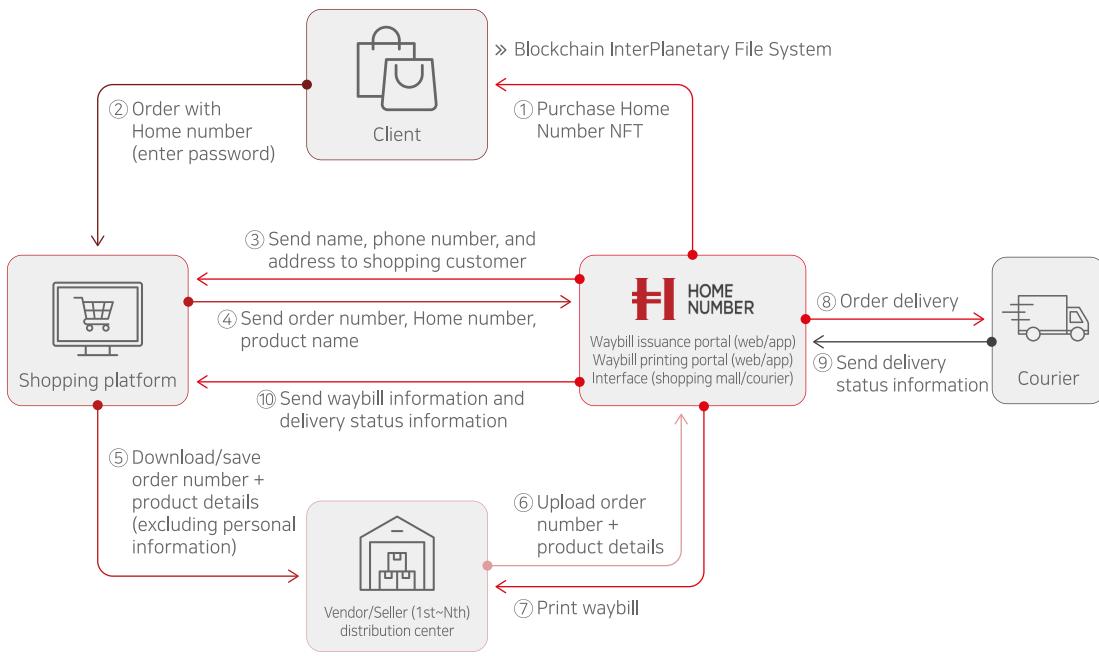
The 「Home Number」 security service is a joint authentication system for delivery destinations that replaces names, mobile phone numbers and addresses, and you can safely shop and receive delivery goods by using 「Home Number」 in online shopping and open markets. In the case of moving, it is convenient to change the address of the 「Home Number」 only. In addition, online shopping malls can provide safe and convenient services with a delivery security system provided by 「Home Number」.

Furthermore, it is used as a personal recognition role in the Web 3.0 era and is used for user's personal information protection and rights and interests. In addition, it provides services that can safely conduct various non-face-to-face (C2C, B2C, B2B) e-commerce such as used transactions without intermediaries.



4-2 Home Number system conceptual diagram

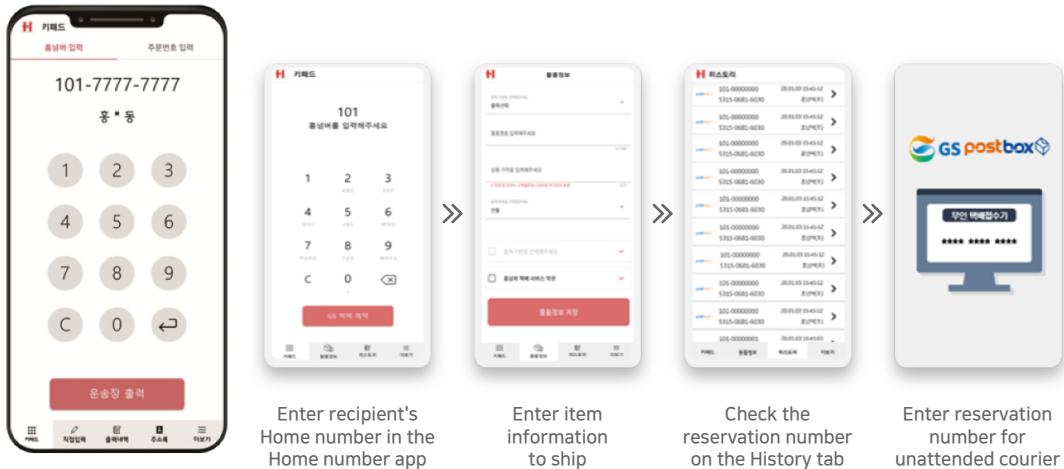
All services can be used without entering personal information into platform companies such as shopping malls. Even if the platform company's data is leaked, it is safe because there is no record of subscriber personal information.



It is possible to trade safely and easily without an intermediary by using Home Number escrow direct transaction system.

4-3 Systems in service

4-3-1 「Home Number」 Delivery reception system (business/individual)



4-3-2 「Home Number」 Delivery security system

The image displays two screenshots of the 'HOME NUMBER META' delivery security system:

- Screenshot 1 (User Management):**
 - Header: HOME NUMBER META, 사용자정보관리 (selected), 관리정보관리, 운송장관리, 비밀번호변경, 로그아웃.
 - Section: 사용자 관리.
 - Search bar: 회사명 (dropdown), 회사이름, 등록요청 (dropdown), 검색 button.
 - Table: A list of users with columns: 번호, 사업자등록번호, 회사명, 아이디, 사용자명, 상태, 기능.
 - Data (Rows):

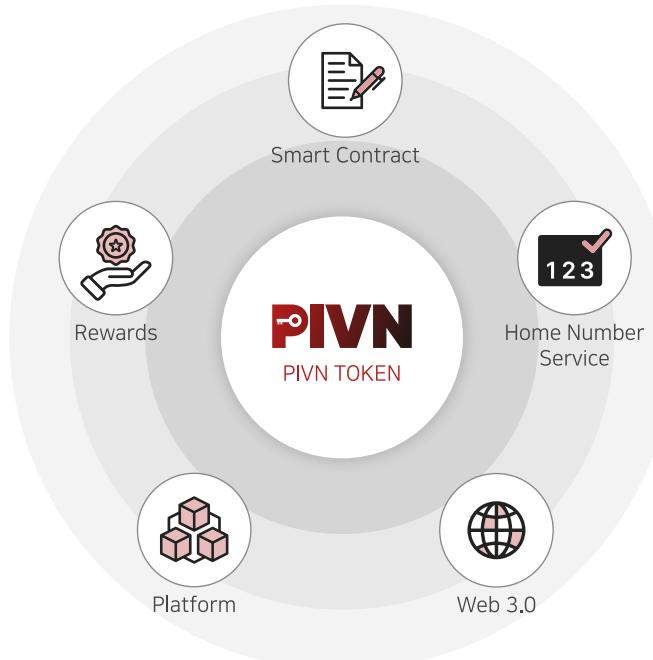
2	1208602984	투더베스트	brian2	테스트	R	승인 삭제
1	1208602984	투더베스트	brian2378	변태경	R	승인 삭제
- Screenshot 2 (Management Information Management):**
 - Header: HOME NUMBER META, 사용자정보관리, 관리정보관리 (selected), 운송장관리, 비밀번호변경, 로그아웃.
 - Section: 관리 정보 관리.
 - Sub-sections: 관리자 정보 관리, 백업 환경 설정.
 - Search bar: 이름 (dropdown), 아이디, 검색, 등록하기 button.
 - Table: A list of management logins with columns: 번호, 이름, 아이디, 최근 접속 시간, 최근 IP, 처리.
 - Data (Rows):

2	관리자	admin	2022/06/22	211.35.136.225	삭제 비밀번호 초기화
1	관리자	hnumber1			삭제 비밀번호 초기화

05 PIVN

5-1 PIVN Token

PIVN stands for Private Identification Virtual Number, which means a personal identification virtual number. PIVN tokens are tokens used within the ecosystem created by projects, including the 「Home Number」 service. It is used for the actual 「Home Number」 service fee, and furthermore, it is used for compensation and use of Web3.0 and all DID-related services, platforms, and ecosystems.



5-2 PIVN NFT

“ My only gold number in the world! ”

“Gold number”, which is preferred by people, such as numbers consisting of the same number and easy to remember like 1111,2222, and easy to use like 1000, 37000, is issued as a limited quantity NFT by dividing into two grades.

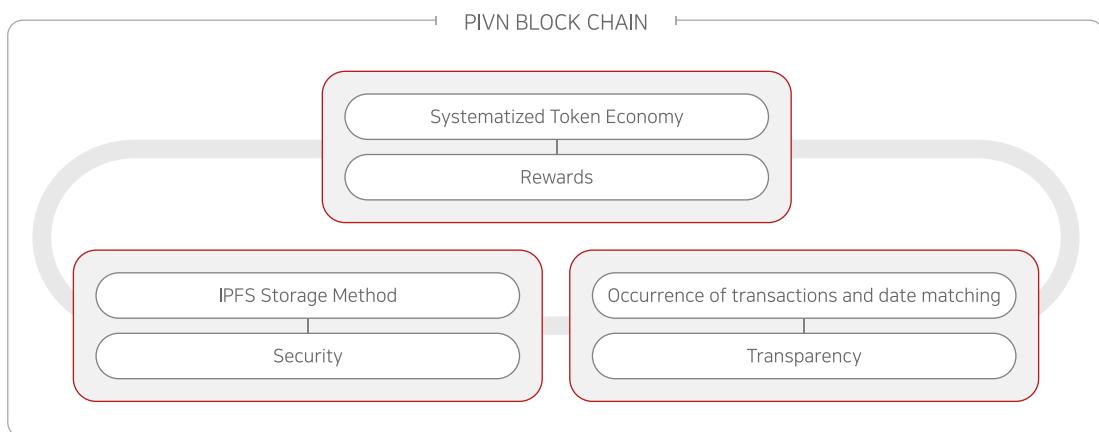


Grade	Number Example	Price	Explanation
Platinum	101- 1111-1111 101- 7777-8888	500 thousand won	Numbers consisting of the same numbers.
Gold	101-2579- 2000 101-5467- 3500	300 thousand won	Numbers with the last two or three digits of zero.

Personal information can be protected through 「Home Number」 and personal information can be easily changed and used. In addition, business operators can distribute business numbers through 「Home Number」.

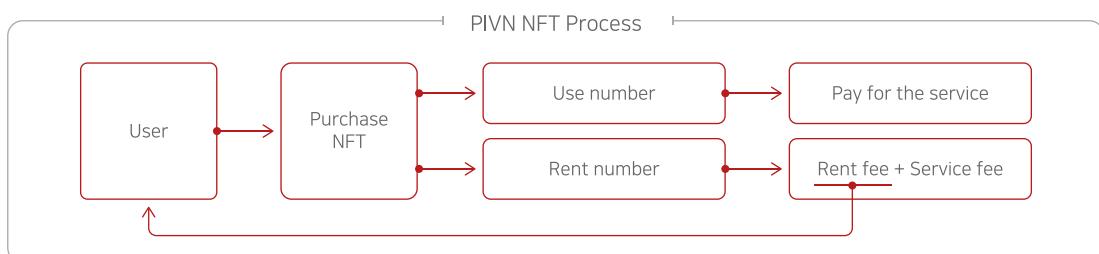
06

PIVN Token Economy



It pursues a developed ideal ecosystem of a decentralized system that aims to expand the voluntary ecosystem, and the more users use it, the more user pools and communities expand and expand its territory online and offline as a more powerful platform.

6-1 Using PIVN NFT and PIVN Token to use 「Home Number」 service



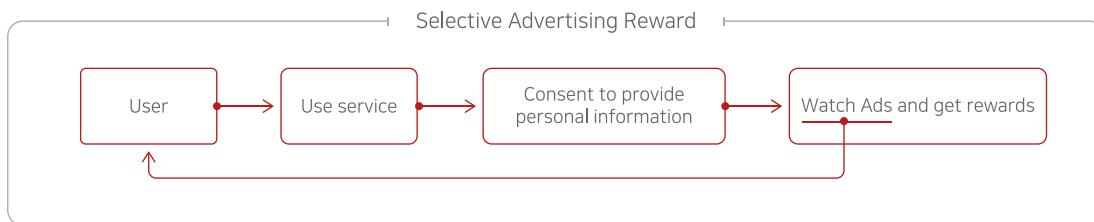
The user owns a specific 「Home Number」 through PIVN NFT and pays an additional fee with a PIVN token. PIVN NFT can be purchased cheaper than legal currency with PIVN tokens. Regardless of the price change of the PIVN token, it is possible to pay the monthly fee for the 「Home Number」 service with 1 PIVN.

6-2 「Home Number」 Service user rewards



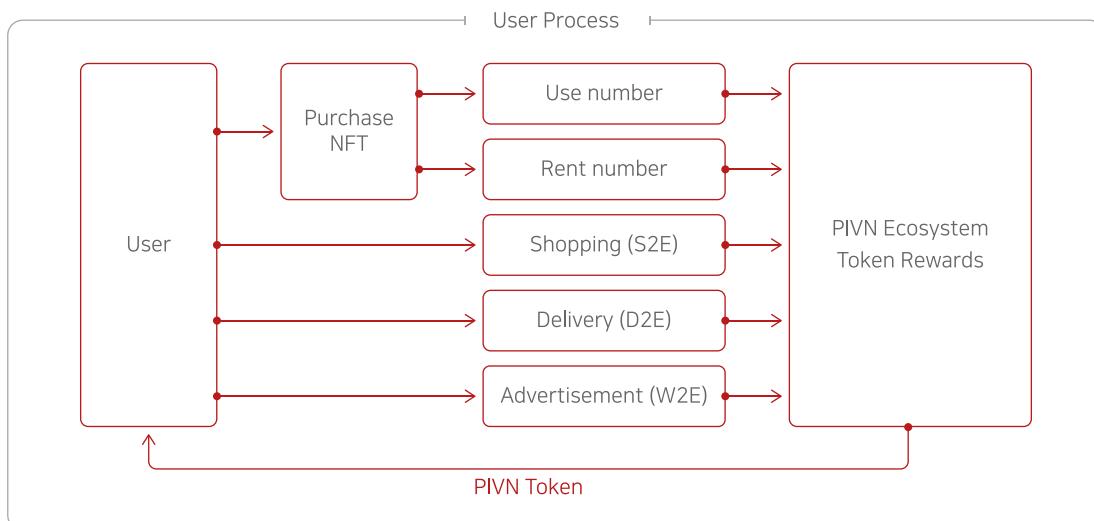
In order to revitalize the ecosystem, PIVN tokens are provided as rewards to users who shop (S2E) with 「Home Number」 or delivery(D2E).

6-3 Optional personal information provision and rewards



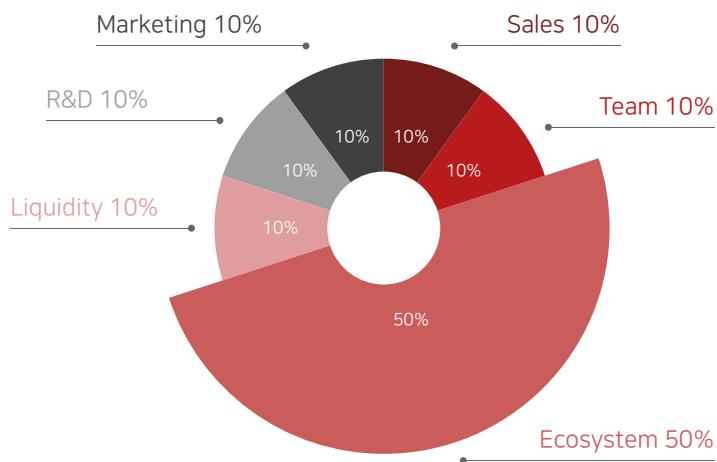
Mobile advertisements or big data are provided through consent to provide selective personal information from essential personal information agreed to use the service, and rewards can be received in return.

In conjunction with the partner's AD platform, you can only receive advertisements in the category you allow, and you can choose customized advertisements and rewards instead of unnecessary spam advertisements.



07

Token Information Summary



Token distribution information

Section	Quantity (hundred million)	Ratio	Note
	100	10%	Sales
	100	10%	Team years of lock-up
	500	50%	Ecosystem distribution by liquidity supply (general)
	100	10%	Liquidity
	100	10%	R&D be distributed after official announcement
	100	10%	Marketing month installment distribution
Total issuance	1,000	100%	

PIVN introduction

- Polygon-based token
- Quantity of token: 1,000 hundred million

08

Roadmap

2022. Q1	- Partnering with Wemakeprice to build a 「Secure delivery system」 - Supply 「Home Number security delivery system」 to GS25 postbox
2022. Q2	- Supply 「Secure delivery system」 to Lotte home shopping and Wemakeprice
2022. Q3	- Wallet creation (Decentralization) multi-chain - Develop personal information protection Dapp - NFT mint - Develop NFT market - Supply 「Secure delivery system」 to home shopping and open market
2022. Q4	- Supply 「Home Number security delivery system」 to Hyundai department store - Supply 「Home Number delivery destinations co-authentication service」 to home shopping and open market - Develop blockchain escrow direct-to-delivery platform
2023. Q1	- Enter Southeast Asian markets
2023. Q2	- Enter the Japanese market
2023. Q3	- Enter the U.S. market

09 Issuing company & Team members

The publisher Home Number Co., Ltd holds 22 patents, including Korea, the United States, China, and Japan. The capital is worth 6 billion won, and has partnered with Hyundai Department Store, Wemakeprice, Mirae Asset Securities, GS Postbox, and CJ logistics. Experts from various fields such as Seoul National University, KAIST, home shopping, delivery, and blockchain are participating as team members.



CEO

JO nam seob

Business management major
at Seoul National University



CEO

PARK chan hee

Computer engineering major
at Chung-Ang University



CIO

KIM si young

Material engineering major at KAIST



CTO

Mason SONG

Computer engineering major
at Seoul National University



CMO

KIM dong han

Business information major
at Cheongju University

10 Partners & Customers



WEMAKEPRICE



Fashionbiz



NICE Information &
Telecommunication, Inc



BIXOLON



11 Disclaimer Terms and Conditions

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The exchange of goods made by this white paper is not intended for the avoidance of damages or financial gain.

In addition, the acquisition of cryptocurrency is an act of purchasing goods, not securities, the legal money administered is consumed, and money loss can occur.

A

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-
- 1 Currency other than cryptocurrency
 - 2 Bonds and shares issued by the relevant or related organization
 - 3 Rights, Options, Derivatives for Bonds and Shares Issued
 - 4 Differential contracts and other rights under contracts impersonating the purpose of guaranteeing return on investment or avoiding losses
 - 5 Units or derivatives of securities, such as collective investment plans and business trusts
-

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