iCube
Let's Finance!

iCubeChain

White Paper

Super Intelligent Self-finance Network

November 20, 2017

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ICUBE Abstract

Finance can be divided into direct finance and indirect finance. From the perspective of money creation and money supply, one kind of finance is to create money and one kind of financial service does not create money, thus leading to the concept of direct and indirect. But if from the perspective of service and non-monetary creation, modern finance is actually realized through the intermediaries. The appearance of Internet makes deintermediation and direct finance in the real sense a possibility. Of course, this possibility is not completely reliable, mainly because the bottom layer of the current Internet finance is still based on our original financial foundation. For example, the current Internet P2P finance is still operated by a centralized system and companies. Just as what we often say, there is no real breakthrough in the underlying problems, such as security, transparency, and nonvolatility.

The emergence of bitcoin and block chain technology has introduced two revolutionary new concepts: One is de-centralized point-to-point encrypted digital currency, and the other is block chain protocol based on proof of work. First of all, self-finance is achieved from the level of financial core currency issuance. Later, a variety of block chain technology projects for real-world commercial applications emerged, as well as the Ethereum (which was able to create all the systems mentioned above and many other systems that we could not imagine yet).

iCubeChain project aims at building a super self-finance network driven by self-finance intelligence. By establishing an information-oriented ultimate abstract base layer and an algorithm model layer based on personal artificial intelligence, block chains with Turing complete programming language and sMPC (secure multi-party computation) algorithm sandbox are built in for ICUBE, so that all developers are able to create contracts and applications oriented at artificial intelligence and set up ownership rules, modes of transaction and state transition functions based on the framework of basic definitions. The iCubeChain protocol is based on POW to issue ICC that can be used to pay the transaction cost. In the protocol, ICUBE scores are also designed for communication among users, artificial intelligence developers and service providers and to quantify the computational value.

In ICUBE super self-finance network driven by self-finance intelligence, every person can enjoy intelligent economic services without threshold. The iCubeChain credit investigation protocol, which transcends the credit investigation system of traditional economy based on measurement of the value of material assets, rebuilds the intelligent economic credit investigation system based on measurement of the value of both material assets and information assets. iCubeChain credit support is based on the value judgment of attributes of material and information assets. With the super-intelligent self-finance mode, ICUBE can provide everyone with intelligent loan service, intelligent lending service, intelligent financial management service, intelligent crowd funding service, intelligent investment service, intelligent investment advisory service based on digital assets, intelligent value-added service based on information assets, and intelligent mutual insurance service. Also, ICUBE enables everyone to manage and create more financial assets in an intelligent manner and realize sustainable appreciation in assets value.

ICUBE provides an opportunity for everyone to benefit from the appreciation of social wealth and enjoy a free, equal, private, and rich life in the age of intelligent economy!

ICUBE Terms

Self-finance

Self-finance is a business mode in which the natural person itself is positioned as a super financial subject and carries out financial activities from the perspective of personal value and interests.

Secure multi-party computation

Secure multi-party computation (SMC) is to solve the problem of protecting privacy in a group of participants that do not trust each other. SMC should ensure the independence of inputs and correct computation, and must not divulge input values to other members involved in the computation.

Turing complete programming language

In the theory of computability, when a set of rules for data operation (a set of instruction, programming languages, or cellular automata) ensures that any data can be computed in a certain order, it is called turning complete. A device with a Turing complete instruction set is defined as a general purpose computer.

Proof of work (POW)

Simply speaking, it is a proof to confirm that you have done some work. It is usually quite inefficient to monitor the entire process of work, while it is a very efficient way to confirm that corresponding work has been completed through verification of work results. For example, the diploma, driver's license and so on in reality are exactly obtained through the test results (related examinations).

Sandbox

Sandbox is a practice to run applications in a restricted secure environment. By limiting access to memory, system files, and settings, sandboxes allow businesses to discover the activities and intentions of potentially malicious codes by executing them without affecting the host device.

Distributed computation

Distributed computing is a computational method, and is opposite to centralized computation. With the development of computing technology, some applications need huge computing power. If centralized computation is used, it will take quite a long time to complete. Distributed computation decomposes the application into a number of small parts that are distributed to multiple computers for processing. In this way, the total computation time can be reduced and the computation efficiency can be greatly improved.

ECC

ECC is a kind of technology that can realize "error checking and correcting”. ECC memory is a kind of memory that applies this technology, and is usually used on servers and graphic workstations, making the whole computer system more secure and stable.

ICUBE Mission and Vision

MISSION

ICUBE empowers everyone with financial intelligence to create personal intelligent self-finance applications and enjoy a free, equal, private, and rich life in the age of intelligence.

VISION

ICUBE empowers everyone with financial intelligence to create personal intelligent financial applications and enjoy a free, equal, private, and rich life in the age of intelligence.

In the face intelligent economy in the future and driven by the artificial intelligence of individuals, ICUBE empowers everyone with financial intelligence and construct a credit investigation system protocol that follows the measures of both material and spiritual value to help everyone generate, manage and apply their own “ICUBE” (a super-intelligent self-finance application) in an intelligent economic network. ICUBE makes everyone enjoy a free, equal, private, and rich life in the age of intelligence.

ICUBE Preface

INTRODUCTION

In 1989, as the namer of black hole, John Archibald Wheeler created an equally well-known catchphrase "It from bit", which is an extreme view and is not materialistic at all: information primary and material secondary. In other words, everything (any particle, any force field, or even the space-time continuum itself) has its function, meaning, and existence entirely (even indirectly in some situations) derived from bits. Or say, the essence of matter is bit. Why does nature seem to be quantized? Because information is quantized. Bits are the ultimate and inseparable elementary particles. In 2004, Hawking, at the age of 62, announced that he had found a way to demonstrate that quantum gravity follows the unitary and that information is conserved.

Since the essence of material is information, we believe that in the future economic system, the proportion of materials as the means of production in economic volume will be quickly reduced to marginal, and information as the means of production will be quickly expanded. Essentially, bitcoin is the reduction of currency into information and simplifying the most complex core financial system - the issuance of complex currency to a computation protocol through the power of technology.

DECONSTRUCTION OF FINANCE

Regarding the essence of finance, it can be divided into direct finance and indirect finance. From the perspective of money creation and money supply, one kind of finance is to create money and one kind of financial service does not create money, thus leading to the concept of direct and indirect. But if from the perspective of service and non-monetary creation, modern finance is actually realized through the intermediaries. The appearance of Internet makes deintermediation and direct finance in the real sense a possibility. Of course, this possibility is not completely reliable, mainly because the bottom layer of the current Internet finance is still based on our original financial foundation. For example, the current Internet P2P finance is still operated by a centralized system and companies. Just as what we often say, there is no real breakthrough in the underlying problems, such as security, transparency, and nonvolatility.

Let's see what a bank is? At present, the most essential function of a bank is account management and clearing. Take bank deposit, loan, and remittance for example, loan and deposit have been more and more deconstructed from banks, that is, they are deconstructed in the age of Internet finance. At present, deconstruction hasn't occurred at the level of remittance, that is, at the level of account, but there is also a trend. For example, the emergence of third-party payment as virtual account is slightly deconstructing bank's account management functions. In the Internet era, the account management function of banks is not really deconstructed, but in the block chain era, such function has begun to be deconstructed. Once it is widely applied, the deposit and load, wealth management and assets management of banks will be confronted with enormous challenges. From this perspective, the concept of bank has become very difficult to answer. Therefore, we believe that the disappearance of universal banks and the emergence of functional combination banks will become a reality.

ADVENT OF SELF-FINANCE

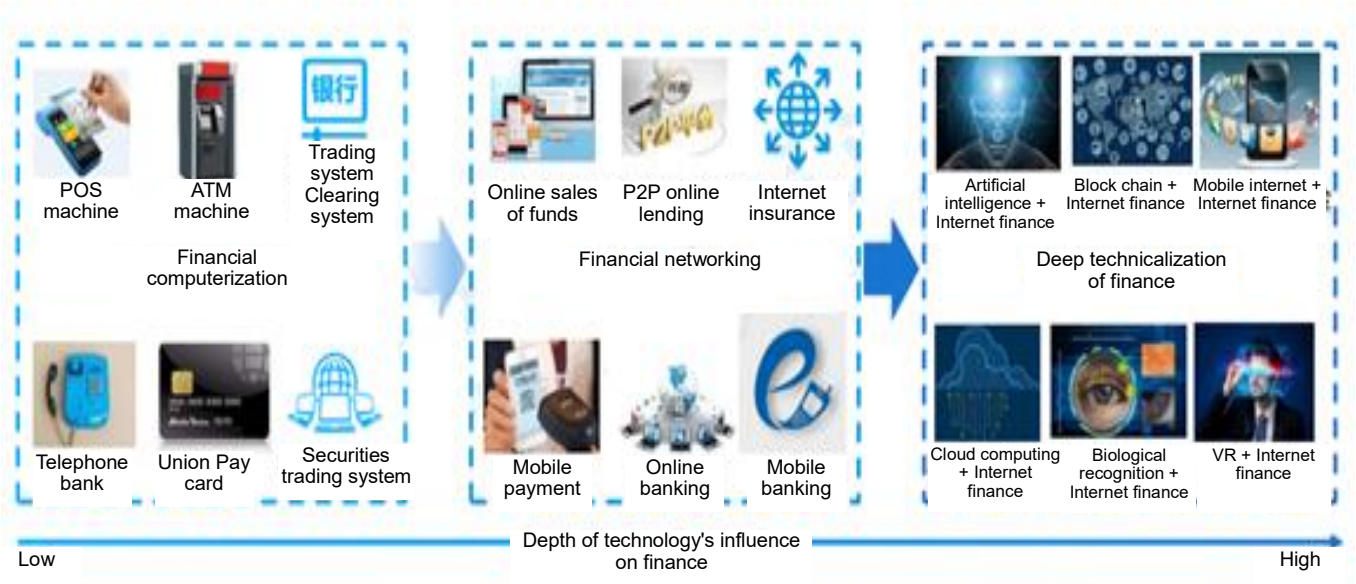
The self-financialization of currency issuance and the deconstruction of traditional bank account system constitute the development foundation of self-finance. Facing the trend of IT and risk control system becoming more and more intelligent and increasingly lower cost, we can construct a super self-finance network driven by self-finance intelligence through block chain technology.

In this self-finance network, every person can enjoy intelligent economic services without threshold. It transcends the traditional credit investigation system based on measurement of the value of material assets and rebuilds the self-finance credit investigation system based on measurement of the value of both material assets and information assets. The credit support for self-finance is based on value judgment of the attributes of material and information assets. With the super-intelligent self-finance mode, ICUBE can provide everyone with intelligent loan service, intelligent lending service, intelligent financial management service, intelligent crowd funding service, intelligent investment service, intelligent investment advisory service based on digital assets, intelligent value-added service based on information assets, and intelligent mutual insurance service. Also, ICUBE enables everyone to manage and create more financial assets in an intelligent manner and realize sustainable appreciation in assets value.

ICUBE Self-finance Ecosystem

INTERNET FINANCE AND SELF-FINANCE

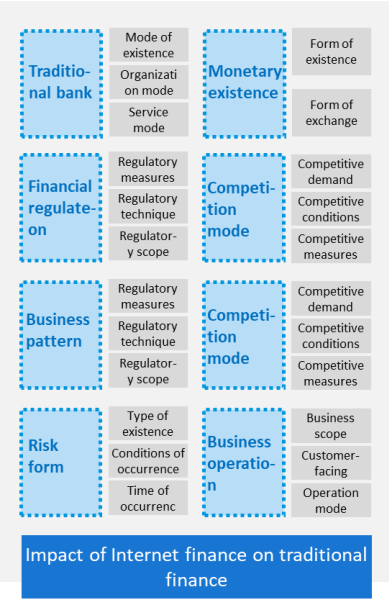
The core content of finance is value exchange across time and space, so the technology that can shorten time and bring space closer can be easily accepted by the financial industry. Since the financial industry entered the information age, it has gone through the stages from computerization and networking, to advanced science and technology at present and in the future based on the depth of technology penetration. At present, artificial intelligence, biological recognition, cloud computing and other technologies have been applied in the field of Internet finance, which indicates that financial science and technology will deeply influence the development of Internet finance.

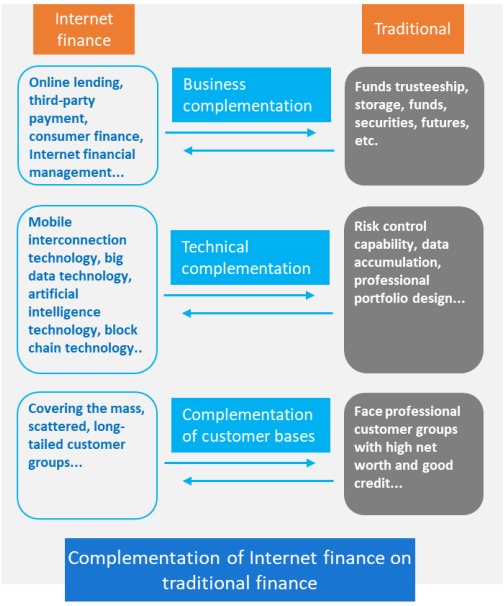


Internet finance is derived from the Internet and big data, with the following characteristics: First, low cost. Financial institutions can avoid the capital investment, a large amount of human costs and operating costs for establishment of business outlets. Second, strong openness. Consumers can quickly find their own financial products on an open and transparent platform, reducing the degree of information asymmetry. Third, high efficiency. The highly decentralized information of enterprises and individuals is primarily processed by computers in a systematic and centralized manner, with completely standardized operation process, faster transaction processing and better user experience. Fourth, decentralization. Internet finance is a more universal financial model, rather than a model controlled by a few professional elites. Customers can break through the limit of space and time to search for needed financial resources on the Internet, thus shortening the industrial chain and enjoying more direct, comprehensive, free financial services, and therefore a more extensive customer base. Fifth, focus on experience. Internet finance is more grass-roots than traditional financial institutions. Its transaction process is relatively simplified, easy to operate and closer to the public, and pays more attention to customer experience.

The appearance of Internet makes financial deintermediation and direct finance in the real sense a possibility. Of course, this possibility is not completely reliable, mainly because the bottom layer of the current Internet finance is still based on our original financial foundation. For example, the current Internet P2P finance is still operated by a centralized system and companies. Just as what we often say, there is no real breakthrough in the underlying problems, such as security, transparency, and nonvolatility.

With the development of block chain technology, finance can be truly deintermediated. Bitcoin first realizes self-finance from the level of core currency issuance of finance. After that, a variety of monetary block chain projects appear. The Ethereum is oriented at creating all commercial application systems and many other systems that cannot image. Of course, one of the most fundamental functions in the Ethereum is the self-finance of accounts and payments. The block chain technology realizes the development of self-finance service and does not requiring too much change in service logic, but focuses more on the block chain of Internet finance.

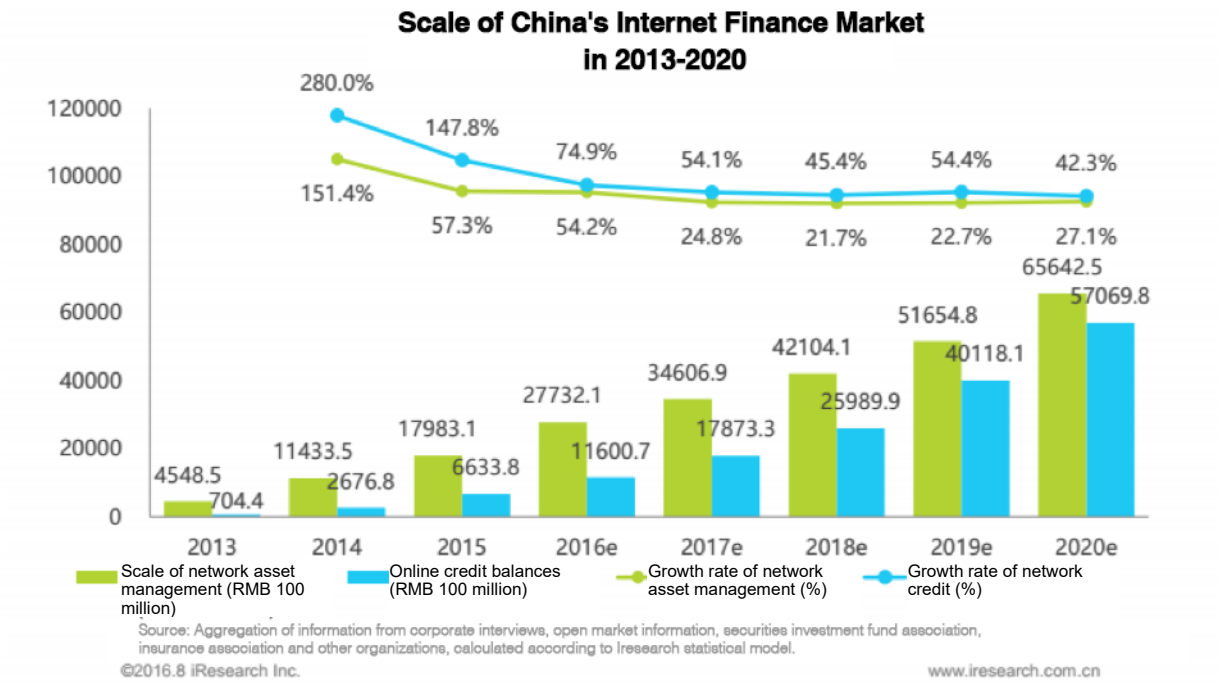




As shown above, we can clearly see the process and difference from traditional finance to Internet finance, and then to the block chain of Internet finance. Self-finance based on block chain is the development and extension of Internet finance. At present, the most suitable fields include petty cash loan, credit loan, mortgage loan of physical assets, mortgage loan of digital assets, project crowd funding, self-help insurance and so on.

ANALYSIS OF FUTURE SELF-FINANCE MARKET

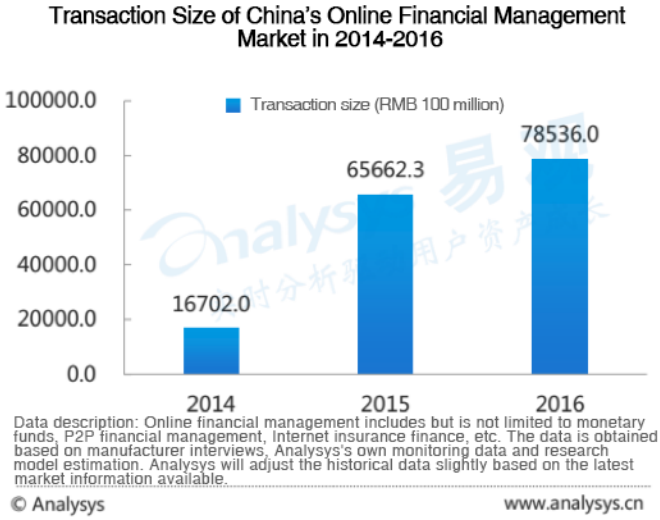
Self-finance based on block chain is the development and evolution of Internet finance, so we can analyze the future self-finance market based on Internet finance market. In recent years, with the rapid development of financial science and technology, China's network asset management scale in 2016 was more than RMB 2.7 trillion and online credit balances exceeded RMB 1 trillion. It is expected that by 2020, the core business scale of China's Internet finance will reach RMB 12 trillion. The details are as shown in the figure below:



For the areas that are most suitable for self-finance development and application, including petty cash loan, credit loan, mortgage loan of physical assets, mortgage loan of digital assets, project crow-funding, financial management and investment of digital assets, self-help insurance, etc., related market situation is described by category respectively as follows.

Self-finance Analysis of online lending market

As shown in the right figure, Analysys analysis shows that China's P2P online lending market has maintained a high growth rate since 2011. According to the *Trend Prediction Report on China's P2P Online Lending Market 2016-2019* released by Analysys, the market size of China's P2P online lending had reached RMB 1971.27 billion in 2016, which increased by 126.9%, being 203 times more than that in 2011.

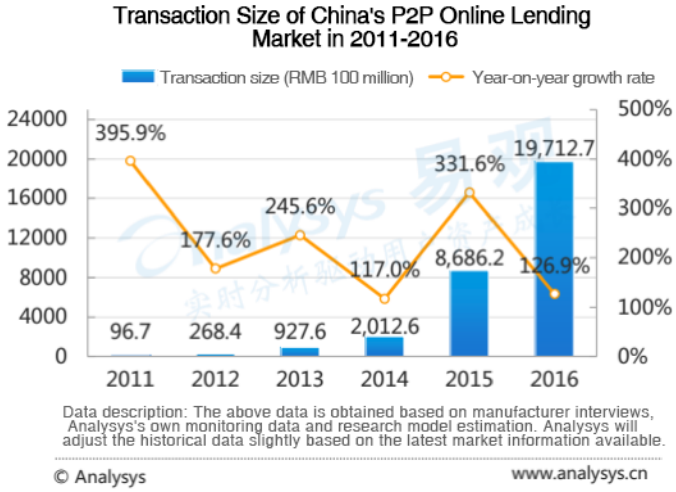


It can be seen that the P2P-based petty cash loan, credit loan, mortgage loan of physical assets and other business have a broad user base and formed a huge user market which t is still growing rapidly. The future development of online lending market based on self-finance is analyzed as follows.

1. Market development: Petty cash loan, social credit, consumer credit and microcredit are most suitable for self-finance development and will become the most fast-growing market in the future;

2. Market growth: Since self-finance is based on Internet-enabled online lending business, we believe that the online lending business of self-finance will quickly show large-scale growth once started and complement the traditional online lending market by relying the existing market resources of online lending up to RMB 1.9 trillion and the average growth rate of 205.28% of the market over the past four years;

Self-finance Analysis of financial management market



As shown in the right figure, according to Analysys analysis, Internet financial management has the characteristics of rich product category, low threshold, convenience and flexibility, wide coverage, huge market space and so on. Analysys's monitoring data shows that the transaction size of Internet financial management market in 2016 had reached RMB 7853.6 billion, growing by 3.7 times compared with RMB 1670.2 billion in 2014. The monetary fund in Internet financial management market has been in the spotlight since Yu'ebao was launched in 2013. In recent years, with the continuous decline of interest rates, users have a growingly stronger demand for security, convenience, and high returns in financial management. At the same time, the increasingly richer and diversified Internet financial management products in recent years also provide more choices for investors. It is expected that the future Internet financial management service of banks and P2P financial management will have a growingly high user share because of high security and returns.

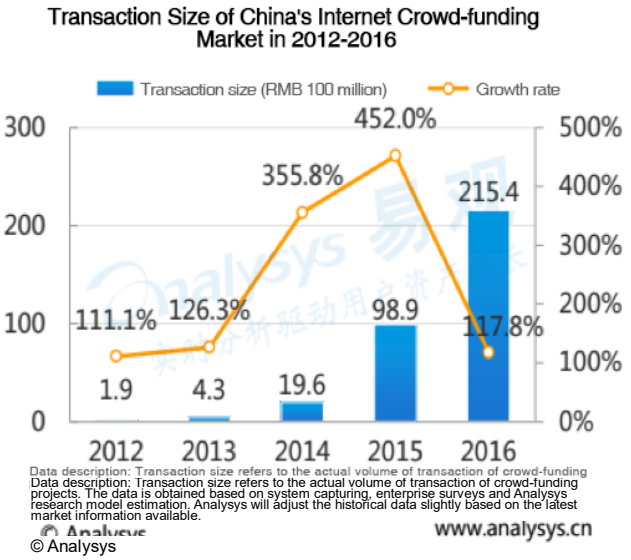
It can be seen that Internet financial management business has had a broad user base and formed a huge user market which t is still growing rapidly. Financial management based on self-finance will be more innovative and attractive and form more and richer financial management products. The future market development is analyzed as follows:

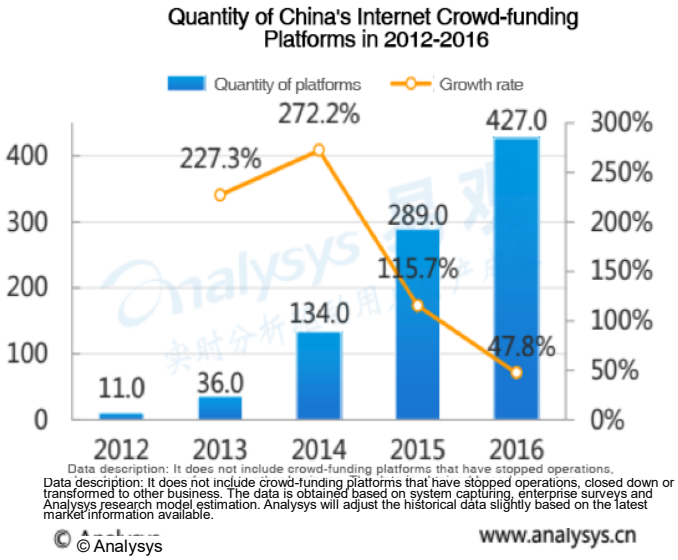
1. Market development: By providing safe, convenient and high-yield financial management products such as monetary funds, P2P financial management and digital asset financial management, self-finance financial management will be favored by users quickly, and the huge stock market based on original Internet financial management will expand fast.

2. Market growth: Since self-finance financial management is based on the block chain of Internet financial management, we believe that the financial management business of self-finance will quickly show large-scale growth once started and complement the traditional financial management market by relying the existing market resources of online lending up to RMB 7.8 trillion and fast growth of the market over the past years;

Self-finance Analysis of crowd-funding market

In recent years, the number of Internet crowd-funding platforms in china has gradually increased and the transaction size has been rising continuously. However, with the deepening of special regulation of Internet financial risks, many platforms with violations and risks have been eliminated. As a result, in 2016, both the number of platforms and the volume of transactions declined significantly. Influenced by the restrictive factors of policy, compared with the crowd-funding of products, the proportion of the transaction size of equity-based crowd-funding is relatively small.



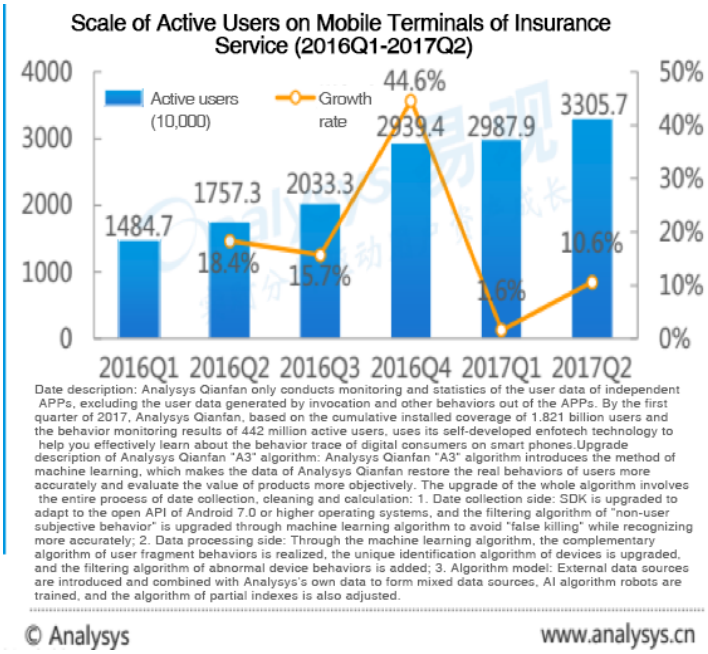


As shown in the above figure, the crowd-funding market is not large due to restrictions of laws and regulations. By 2016, the market volume was RMB 21.54 billion only. However, we believe that based on the technology innovation of self-finance, the future crowd-funding based on digital asset projects will show explosive market development. The future market development is analyzed as follows:

1. Market development: By providing innovative crowd-funding products such as project crowd-funding, IP crowd-funding, community crowd-funding, digital asset crowd-funding and so on, self-finance crowd-funding can quickly get users' favor and realize rapid development of the market.

2. Market growth: Since self-finance crowd-funding is based on the block chain of Internet financial management, we believe that the innovative crowd-funding business model will quickly show large-scale growth once started and complement the traditional crowd-funding market;

Self-finance Analysis of insurance market



As can be seen from the above figure, the scale of China's Internet insurance market reached RMB 330.57 billion in 2016. The rapid growth of the Internet insurance market has been curbed by the policy of 2016. In 2017Q1, the growth in the scale of active users on mobile applications of insurance business declined sharply. However, the user scale has taken shaped basically because of increasing participation.

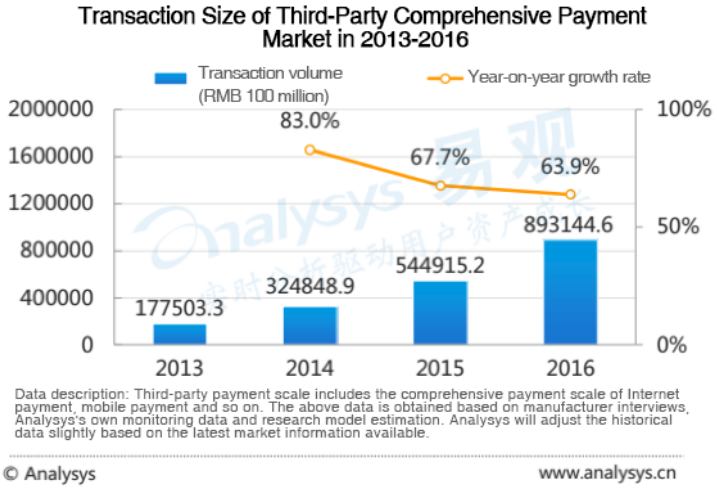
P2P-based self-help insurance is most suitable for the block chain innovation of self-finance insurance products. Internet insurance has a broad user base, and the market is still growing rapidly. In the future, self-help insurance based on self-finance and property insurance projects based on digital assets will show explosive market development. The future market development is analyzed as follows:

1. Market development: By providing innovative insurance products such as self-help insurance, property insurance based on digital assets and so on, self-finance insurance can quickly get users' favor and realize rapid development of the market.

2. Market growth: Since self-finance insurance is based on the block chain of Internet financial management, we believe that the innovative insurance business model will quickly show large-scale growth once started and complement the traditional insurance market;

Self-finance Analysis of payment market

As shown in the right figure, Analysys's industry database monitoring results show that China's third-party payment scale reached RMB 89314.46 billion in 2016, up 63.9% from the year-on-year level in 2015. Compared with the fast growth rate which was maintained above one time before 2012, the growth rate gradually slowed. From the overall trend, the transaction size of China's third-party payment market has steadily increased since 2013, and the market transaction size in 2016 was five times as large as that in 2013. It is expected that China's overall third-party payment will remain growing.



Payment includes accounts and payments and is the core financial systems. The self-finance of payment system will thoroughly influence the whole financial market. At present, many block chain projects provide the function of account payment system, and will extend to more application fields in the future. As of October 23, 2017, the market value of bitcoins was USD 99.8 billion, and that of Ethereum was USD 28.2 billion. The overall market size was over USD 200 billion.

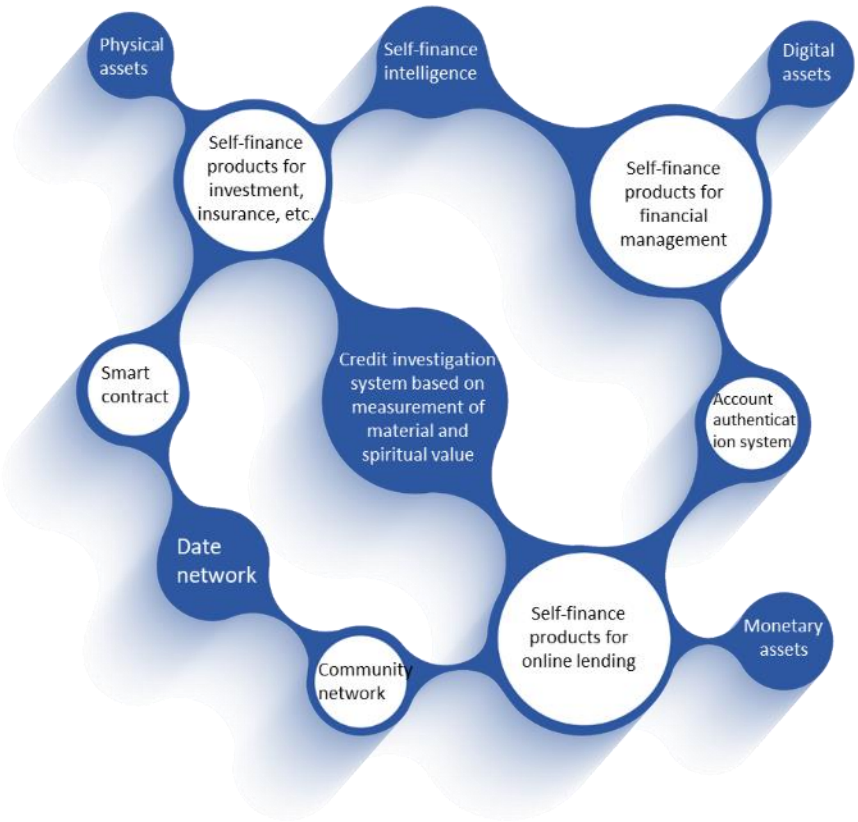
The two markets have begun to show the characteristics of merge, such as Baidu Wallet beginning to support the function of CDN mining. In the future, the market will be integrated and develop more quickly.

SELF-FINANCE ECOLOGICAL ELEMENT DESIGN

The market of self-finance is the block chain of Internet financial market, but self-finance is not only the block chain of Internet finance. ICUBE self-finance is oriented at the future intelligent economy era to construct a super self-finance network ecosystem driven by self-finance intelligence.

In ICUBE super self-finance network driven by self-finance intelligence, every person can enjoy intelligent economic services without threshold. The iCubeChain credit protocol, which transcends the traditional credit investigation system based on measurement of the value of material assets, rebuilds the intelligent economic credit investigation system based on measurement of the value of both material assets and information assets. iCubeChain credit support is based on the value judgment of attributes of material and information assets. With the super-intelligent self-finance mode, ICUBE can provide everyone with intelligent loan service, intelligent lending service, intelligent financial management service, intelligent crowd funding service, intelligent investment service, intelligent investment advisory service based on digital assets, intelligent value-added service based on information assets, and intelligent mutual insurance service. Also, ICUBE enables everyone to manage and create more financial assets in an intelligent manner and realize sustainable appreciation in assets value.

By abstracting, we can describe the ecosystem of ICUBE self-finance as shown in the figure below:



The composition of core elements is described as follows:

1. Credit investigation system: Construct a future-oriented credit investigation system based on the measurement of material and spiritual value;

2. Community network: A self-finance community network based on ICUBE ecology;

3. Data network: A self-finance data distributed storage and secure multi-party computation network based on ICUBE ecology;

4. Account authentication system: An account and authentication system based on ICUBE ecology.

5. Smart contract: A smart contract technology system supporting various applications of self-finance ecology;

6. Self-finance intelligence: Transform traditional institution-oriented financial intelligence to individual-oriented financial intelligence.

7. Self-finance products: Including intelligent loan service, intelligent lending service, intelligent financial management service, intelligent crowd funding service, intelligent investment service, intelligent investment advisory service based on digital assets, intelligent value-added service based on information assets, and intelligent mutual insurance service for everyone;

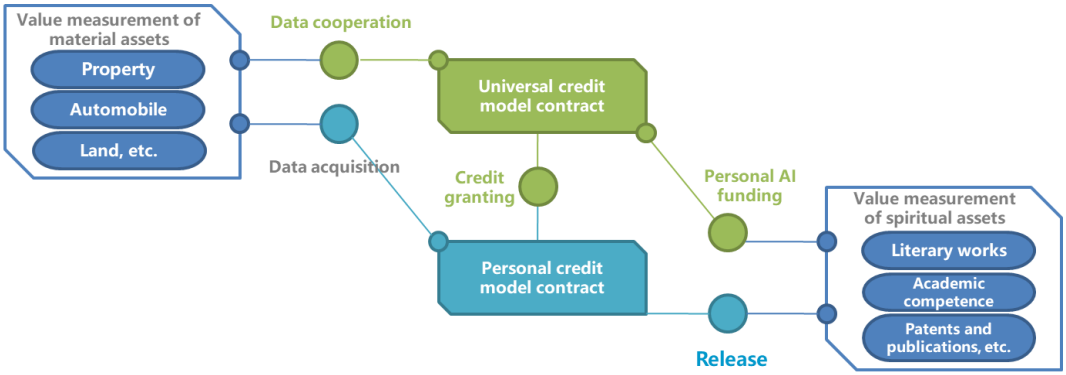
8. Assets: Including physical assets, digital assets and monetary assets;

SELF-FINANCE CREDIT INVESTIGATION SYSTEM

Credit is a special form of value movement under the condition of repayment, including Monetary creditmonetary credits and credit sales of goods, such as bank credit, commercial credit and so on.

Credit investigation is a kind of credit information service provided for credit activities. In practice, it manifests as collection, investigation, saving, arrangement and provision of the credit information of enterprises and individuals by specialized institutions and evaluation of their credit standing, for the purpose of satisfying the requirements of institutions engaged in credit activities for credit information in credit transactions and solving the problem of information asymmetry in lending market.

The credit investigation of traditional financial business is built on the value measurement system with the property of physical assets. In the face of the rapid development of digital assets in the era of intelligent economy, such system has been seriously lagging behind and not applicable. Based on the financial intelligence of such credit investigation system, more inequality and inequality will be caused by the backwardness of system and supervision.

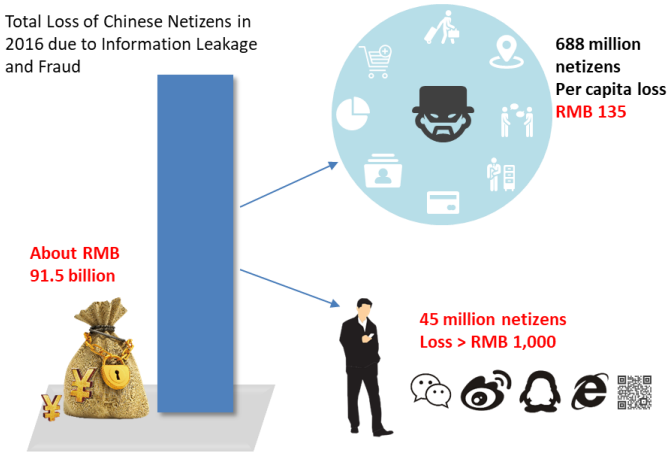


ICUBE credit investigation protocol transcends the credit investigation system of traditional economy based on measurement of the value of material assets, and rebuilds the intelligent economic credit investigation system based on measurement of the value of both material assets and information assets. iCubeChain credit support is based on the value judgment of attributes of material and information assets.

ICUBE credit investigation system is composed of protocol systems, organization systems, market systems, culture systems and publicity systems related to credit investigation activities. The main function of ICUBE credit investigation system is to serve the ICUBE self-finance market, but it also has strong extensionality to serve the large ecosystem of block chain in the future.

SELF-FINANCE BIG DATA SERVICE

In the era of Internet big data, everyone is producing and creating a large amount of information every day, including our personal identification information, financial transaction information, business consumption information, business behavior information, life service information, social entertainment information, cultural and artistic information, behavior track information and other private information. This information is very valuable, as it can help us look back on history and accurately predict the future. Therefore, information is referred to as the "oil" of new economic era and has become one of the most important means of production in the current economic development.



Today, it is no longer a secret that all kinds of organizations are frantically collecting users' information. In the process of using the products and services of an organization, all the information of users will be collected. Once personal information is stored in the form of data, it is held in the centralized organization database such as a commercial company, and it is actually difficult for individuals to own and prove it, even less to protect it. Driven by enormous commercial profits, individuals are unable to prevent organizations with information from integrating, analyzing, utilizing and realizing the personal data collected, Instead, such information is widely used in advertising, product promotion and commercial insight. Driven by excessive profits, some individuals or organizations even divulge and trade personal privacy information in a large amount and commit to a variety of criminal acts, bringing about irreparable pain to individuals. When the massive information resources produced by individuals by spending a lot of intelligence, physical strength and time is used wantonly and free as a means of production and information owners are totally passive and helpless, is it fair to these individuals?

The major pain of traditional big data service is that data cannot be shared safely (data can be infinitely copied at zero cost and can easily be resold and resold many times; personal data can be copied, circulated and even resold once shared, which causes the personal privacy leakage and loss of information assets, and in worse cases, even result in malignant bad consequences) and that privacy cannot be protected in computation (no matter in marketing or credit investigation, the data application scenarios are mostly inquiry on demand. Since customer data cannot be hidden in inquiry, it is easy to be divulged or circulated directly to unrelated third parties, or even be resold;)

ICUBE data network, based on the decentralized data storage and distribution mechanism, secure multi-party computation protocol and so on, realizes distributed shared computation of data under the condition of protecting privacy, and becomes the foundation of self-finance intelligence;

SELF-FINANCE ARTIFICIAL INTELLIGENCE

Based on big data and especially driven by new technologies such as big data and machine learning, artificial intelligence has entered people's life. Financial science and technology is the most sufficient area for artificial intelligence applications, and artificial intelligence technology has greatly improved the operational efficiency. The core of finance is risk control, and Internet financial services based on financial artificial intelligence also bring about more serious inequality. For example, based on the calculation of financial AI model, customers from different regions who apply for loans online will be naturally treated differently; under the same income situation, manual workers may have to pay more cost to obtain loans (or insurance); manual workers who have equal income levels may be treated differently as well.

These scenarios remind us of a classic review of artificial intelligence, "A person's choice cannot be calculated based on emotional factors, but the choice of a group of people can be calculated. If the future intelligence makes uncomputable individual choices into reverse elimination algorithms, it will be the beginning of the world's destruction." The financial artificial intelligence of organizations is just making such computation, so is today's credit investigation system. In the case of loans, if a person has no jobs, no assets, and no guarantees, he / she will have no way to obtain loans, even if he / she has a good education background, sings or paints very well, or publishes some papers and so on;

In these scenarios, there is also a problem of key stakeholders. Since these organizations have possessed the capabilities of Internet financial technology, the interests of individuals will be weakened, ignored and infringed upon under the premise of maximizing the interests of organizations. What's more, organizations exploit information asymmetry and imperfect legal systems to lend to low-income people at real annual interest rates of several hundred percent. This plunder behavior, in the name of inclusive finance, actually uses financial technology to create the biggest inequality;

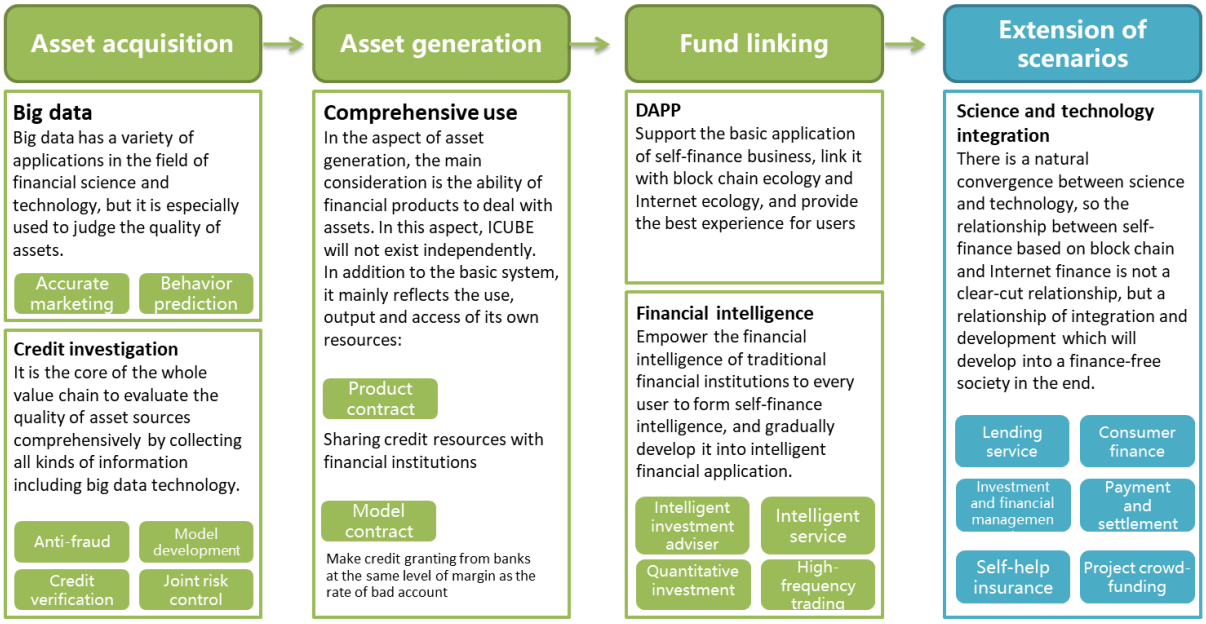
In the era of intelligent economy, we believe that the major pain of financial science and technology lies in the inequality between stakeholders and intelligence. The intelligence of financial science and technology has not only the solid shield, but also the sharp spear. As a shield, it can protect the interests of organizations from loss. As a spear, it is easy for it to use the information asymmetry to hurt personal interests;

ICUBE self-finance will be oriented at serving the financial artificial intelligence of individuals. By empowering individuals with financial intelligence, every person can have the intelligent self-finance ICUBE without threshold. With the super-intelligent self-finance mode, ICUBE can provide everyone with intelligent loan service, intelligent lending service, intelligent financial management service, intelligent crowd funding

service, intelligent investment service, intelligent investment advisory service based on digital assets, intelligent value-added service based on information assets, and intelligent mutual insurance service. Also, ICUBE enables everyone to manage and create more financial assets in an intelligent manner and realize sustainable appreciation in assets value.

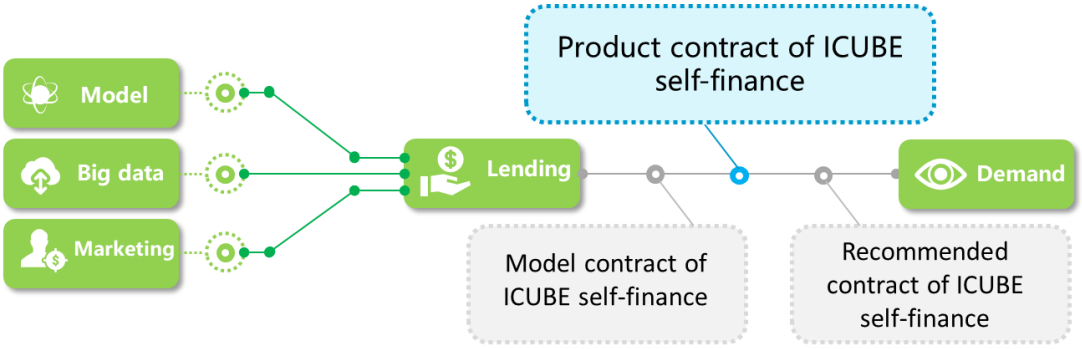
SELF-FINANCE ▪ FINANCIAL PRODUCTS

In most scenarios, ICUBE is more similar to an infrastructure, and ICUBE self-finance ecology should be constructed with financial business process as the main line.



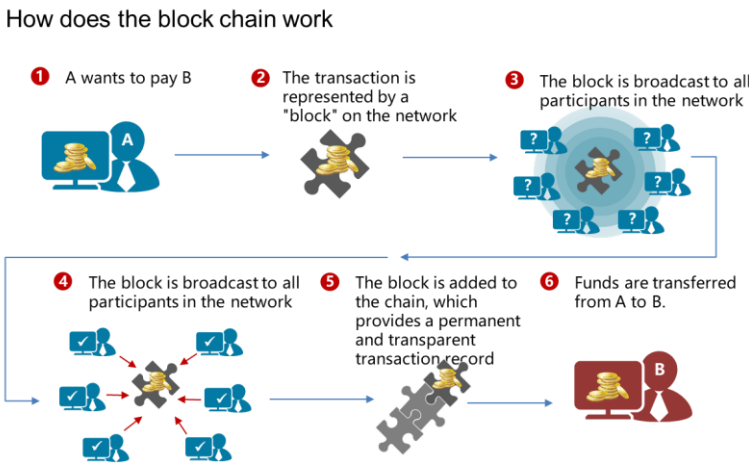
As shown above, in the process of self-finance productization, the first is asset acquisition, followed by asset generation, capital linking and ascending into the scenario of product application.

The release process of ICUBE self-finance products is as follows:



ICUBE self-finance can release a variety of financial products and services, such as petty cash loan, credit loan, mortgage loan of physical assets, mortgage loan of digital assets, project crow-funding, financial management and investment of digital assets, self-help insurance, etc.;

When Satoshi Nakamoto launched the bitcoin block chain in January 2009, he also introduced two revolutionary new concepts to the world. The first is bitcoin, a decentralized point-to-point encrypted digital currency that maintains its value without any assets cover, intrinsic value, or a central issuer. Essentially, it turns money back into information. The second is the block chain protocol based on proof of work, which opens the door to future information economy networks. Later, developers begin to apply the block chain technology to real-world business applications, including colored coins, intelligent assets, domain name coins and more advanced applications such as decentralized exchanges, financial derivatives, point-to-point gambling and online identity and reputation systems. Besides, Ethereum also emerged. It is a block chain that provides built-in proven Turing complete language and is able to create all of the systems mentioned above as well as many other systems that we can't imagine.



We believe that an ideal financial intelligent network should be equal at first and narrow the gap between individuals and organizations as far as possible; secondly, financial science and technology intelligence should be able to serve every person who should be served and realize inclusive finance; financial science and technology intelligence should serve everyone equally without wanton plunder;

The iCubeChain project aims at building a super self-finance network driven by self-finance intelligence. By establishing an information-oriented ultimate abstract base layer, an algorithm model layer based on personal artificial intelligence and a block chain with built-in Turing complete programming language and sMPC (secure multi-party computation) algorithm sandbox, ICUBE enables all developers to create financial contracts and applications oriented at artificial intelligence and set up ownership rules, modes of transaction and state transition functions based on the framework of basic definitions. The iCubeChain protocol is based on POW to issue ICC that can be used as encryption fuel to pay the transaction cost. In the protocol, ICUBE scores are also designed for communication among users, artificial intelligence developers and service providers and to quantify the computational value.

DESIGN PRINCIPLES

The design of iCubeChain should consider five basic principles: simplicity, decharacterization, sandbox, orientation, and integration into ecology.

1. Simplicity: The underlying architecture of ICUBE should be as simple as possible and the interface should be as easy to understand as possible. It should avoid too complex protocols or middle tiers as far as possible;

2. Decharacterization: Protocol characteristics and opcodes should reflect the minimum level of concepts and be decharacterized as far as possible. It is prohibited to use very common high-level use cases as an internal part of protocols;

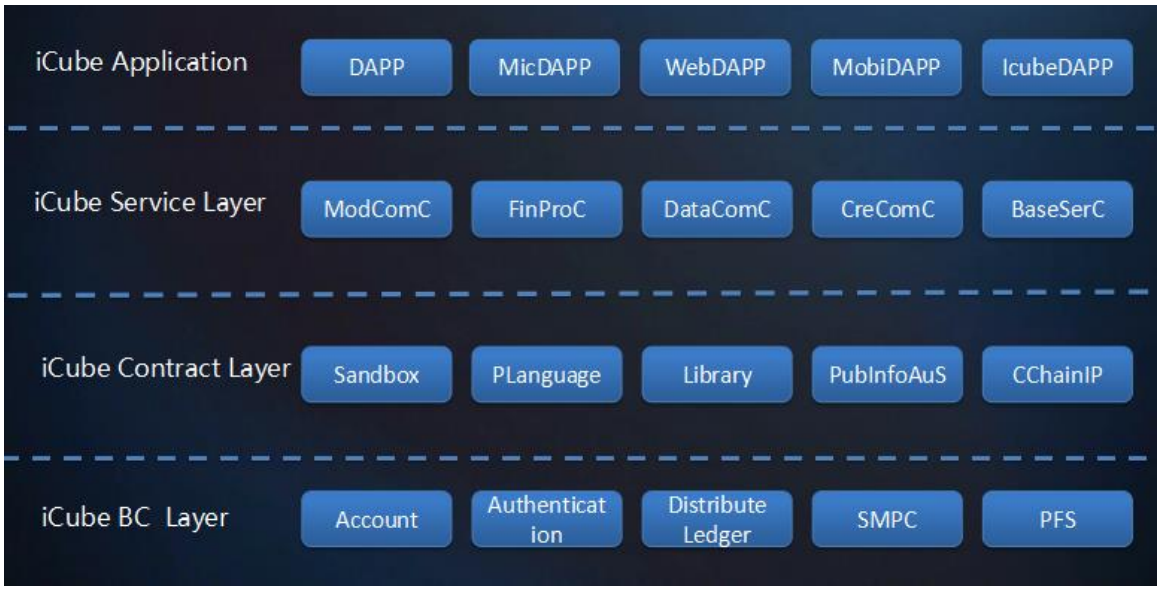
3. Sandbox: Middle tiers are invisible to end users, but need security and stability in meeting directional application requirements. iCubeChain does not pursue a completely open technology system, but a safe, stable and efficient mass balance system.

4. Orientation: In specific application and development, it is oriented at constructing super intelligent network applications driven by self-finance intelligence, but does not attempt to solve all problems;

5. Cross-chain: Block chain ecology has taken shape. ICUBE does not attempt to construct a closed ecology. Instead, it can support various cross-chain operation protocols, access various digital asset projects and integrate into ecology.

DESIGN IDEAS

iCubeChain project aims at building a super self-finance network driven by self-finance intelligence. The design model of iCubeChain is as follows:



By establishing an information-oriented ultimate abstract base layer and an algorithm model layer based on personal artificial intelligence, block chains with Turing complete programming language and sMPC (secure multi-party computation) algorithm sandbox are built in for ICUBE. iCubeChain protocols include: authentication and account, message and transaction, personal artificial intelligence, secure multi-party computation, block chain and mining mechanism, smart contract and sandbox, intelligent application, etc. In this way, all developers are able to create contracts and applications oriented at artificial intelligence and set up ownership rules, modes of transaction and state transition functions based on the framework of basic definitions. Based on ICUBE, developers are able to create arbitrary collaborative intelligent applications which have complete features and are easy to develop based on consensus, privacy protection, value awareness and block chain awareness.

ICUBE is generated, applied and managed by individuals. The users, developers and service providers of ICUBE construct an individual-based ecosystem of artificial intelligence information economy network together. iCubeChain protocol is based on POW to issue ICC, while ICC can be used as the encryption fuel of iCubeChain to pay the transaction cost. In the protocol, ICUBE scores are also designed for communication among users, artificial intelligence developers and service providers and to quantify the computational value.

The key technical points of ICUBE are described as follows:

ACCOUNT AND AUTHENTICATION

Account is the core role of ICUBE. There are two types of ICUBE accounts: external accounts and contract accounts. A state consists of an object called "account" and a state transition that transfers value and information between two accounts. An ICUBE account consists of four parts: 1. Random number, a counter used to determine that each transaction can only be processed once; 2. Current balance of information currency of the account; 3. Contract code of the account, if any; 4. Account storage (default to empty). Both the external account and the contract account belong to state objects. These entities all contain a state: The external object contains a balance state, and the contract account contains a balance and contract storage.

In the authentication of ICUBE, a basic authentication service system will be introduced to meet the needs of people in specific service scenarios. The authentication system will be divided into several levels, including ID generation management, authentication management, four-level identity authentication and three-level credit authentication;

SECURE MULTI-PARTY COMPUTATION

Secure multi-party computation (SMPC) is to solve the problem of protecting privacy in a group of participants that do not trust each other. SMPC should ensure the independence of inputs and correct computation, and must not divulge input values to other members involved in the computation. In general, an SMPC problem will compute any probability function based on any input on a distributed network, and each input party has an input on this network. The distributed network should ensure the independence of inputs and the accuracy of computation. Except for respective inputs, any other information that can be used for deriving other inputs and outputs must not be disclosed. ICUBE constructs protocols which support combined computation and protect the privacy of participants. An SMPC model consists of four parts: participants, definition of security, model of communication network, and security of information theory and cryptography. ICUBE enables individuals to realize joint data sharing and computation under the premise of information privacy protection, and obtain all the benefits.

DISTRIBUTED ARTIFICIAL INTELLIGENCE

Distributed artificial intelligence (DAI) is the product of combination of artificial intelligence and distributed computation. DAI has met the needs of designing and building large complex intelligent systems and computer supported cooperative work (CSCW). The purpose of DAI is to study the behaviors and methods of implementing decentralized intelligent group agents logically or physically, and the knowledge, skills and planning to coordinate and manipulate them, in order to complete the multitasking system and solve all kinds of problems with clear objectives.

DAI is divided into two modules: One is distributed problem solving (DPS) and the other is about multi-agent system (MAS) implementation technology.

The so-called distributed problem solving is to decompose the general problem to be solved into several subtasks and design a sub-system for each subtask to solve the problem. First of all, we need to intelligently determine a distribution strategy: How to assign the subtasks of a general task among a group of modules or nodes; next, we need to intelligently determine a strategy for task collaboration: it is necessary to realize collaborative problem solving based on based on decentralized and loosely coupled knowledge sources. The concept of “decentralization” means that the control operations and available information of a task are distributed without global control and global data; the knowledge sources are distributed on different processing nodes, and the data, information, knowledge and answers to questions can be shared based on certain rules.

The multi-agent system (MAS) is mainly for behavior coordination and task coordination among different agents. That is, among a group of autonomous agents, it determines and adopts necessary strategies and operations by coordinating their knowledge, goals, skills and system planning, so as to achieve the goal of solving multitasking systems and various complex problems. MSA aims at completing large complex tasks collaboratively by coordinating the behaviors of several agents.

ICUBE ARTIFICIAL INTELLIGENCE

ICUBE artificial intelligence application contains five important elements that users need to set up in the application, namely, "intention", "instance", "role", "story" and "field”.

“Intention” is defined as an operation corresponding to a command (e.g. turning on the light);

“Instance” is defined as a particular object or a piece of information that our artificial intelligence needs to know in order to execute an intention (e.g. which light? Is it a smart bulb? Does the bulb support a specific color?) Users do not need to create the intention from scratch;

“Role” is used to distinguish different instances in different environments;

The new features of “story” allow users to define typical conversations in a new way.

“Field” is the entire knowledge and data structure from ICUBE and can be used for every ICUBE application. A field may include knowledge consisting of common verbs and content types. For example, it can understand information and integrate a wealth of encyclopedic information on topics such as history, word definitions, important characters (such as stars, writers and movie characters), movies and stock prices.

MINING MECHANISM

The proof-of-work algorithm used is called CubeHash, which needs to find a specific required algorithm input so that the algorithm results conform to a given difficulty. The key point is that there is no other method to calculate the PoW algorithm except violent exhaustion, but the verification of results is very simple as long as the output of the algorithm (i.e. the result of hash function) satisfies our preset requirements. We can ensure that the average time to find a value that conforms to the result is guaranteed by controlling the difficulty threshold. This ensures that we can control the generation time interval of a new block by controlling the difficulty. Under the guarantee of the protocol, a new valid block can be generated by the whole network computing power within 15 seconds on average by dynamically adjusting the difficulty. We can say that the entire network has 15 seconds of block time. This basic system synchronization "heartbeat" ensures that maintaining a bifurcation (double spending) and historical rewriting is impossible unless you can control enough network computing power (this is called a 51% attack). Any node that joins the network can become a miner whose revenue is proportional to their hash computing power. The computing power is described by the hash rate, that is, the number of times per second that a hash computation can be attempted.

The PoW of ICUBE needs to rely on a set of fixed resources of block header data and random numbers, which are known as DAG (with the size up to several GBs). Every 30,000 blocks in the block chain generates a completely different DAG, and a DAG of data will use about 125 hours (about 5.2 days) as per the difficulty of 15 seconds for each block, called an epoch. Because the DAG data only depends on the height of blocks, it can be computed in advance. Otherwise, the node needs to wait for the completion of DAG computation before continuing to produce a new block. When verifying PoW results, DAG resources are not needed, and only low CPU and memory resources are needed.

SMART CONTRACT

A smart contract is a collection of codes (its function) and data (its state) with specific addresses stored in an iCubeChain. Contract accounts can pass messages to each other to complete the Turing complete operation. Contracts runs on the block chain through sandboxes in ICUBE-specific binary byte codes. All service providers can develop various contracts and DAPP to serve end users for the benefit;

CROSS-CHAIN OPERATION PROTOCOL

ICUBE supports cross-chain asset exchange protocols, that is, extensions are made to existing double-chain atomic asset exchange protocols so as to allow multiple participants to exchange assets across different block chains and ensure that all the steps of the transaction are successful or fail.

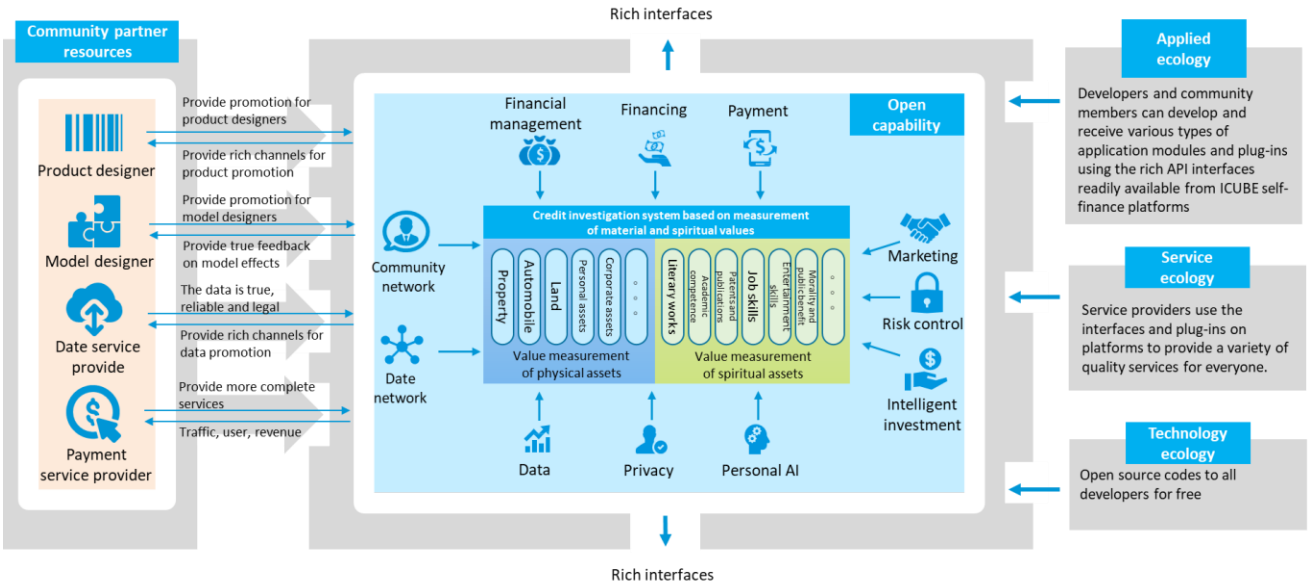
To do this, we need to create a contract account for each participant using the capabilities of contract. For other block chains, ICUBE can be compatible through the adaptation protocol plug-in in the future;

DECENTRALIZED INFORMATION STORAGE AND DISTRIBUTION

ICUBE inclusion is a point-to-point information sharing network application in which files are resolved by hashes of their contents. Similar to Bittorrent, data can be acquired from multiple nodes at the same time, and can be accessed anywhere as long as a single node hosts one data. This approach makes it possible to distribute data without having to host any type of server - the data accessibility is location independent. Other nodes in the network can be motivated to copy and store data on their own, thereby avoiding the need to host services when the original node is not connected to the network.

ICUBE · Self-finance Application Ecology

ICUBE devotes itself to constructing the applied ecology of self-finance. In the self-finance application ecology, with the credit investigation protocol system based on measurement of both physical and spiritual values as the core, ICUBE supports developers to build various self-finance applications by relying on community network and data network and supporting multi-party secure distributed computing technology and individual-oriented artificial intelligence engine.



SELF-FINANCE CREDIT SERVICE APPLICATION

The applications of intelligent credit service can construct various credit evaluation applications based on the double value measurement system of ICUBE, such as constructing credit scoring models for lending, behaviors or public benefits. Based on the comprehensive processing and evaluation of personal massive information and data, credit scoring models can be constructed for individuals and used to construct self-finance applications.

Through this credit investigation system, it is possible to support a variety of credit behavior and service applications, such as travel, lodging, reading, parties, shopping, lending, entertainment and so on;

SELF-FINANCE LENDING SERVICE APPLICATION

Based on ICUBE, various intelligent loan applications can be developed, including petty cash loan, credit loan, social insurance loan, accumulation fund loan, education loan, skill loan, academic loan, public interest loan, interest loan and so on;

The applications of intelligent loan service based on self-finance realizes the whole service process of lending through smart contracts, including user authentication, anti-fraud verification, risk control model of loan approval and so on;

Both lenders and borrowers can match the best credits and risk control models intelligently to maximize the interests of each other, and can also disperse matching to minimize risks;

The content of lending may be capital assets, digital token assets or other digital assets;

SELF-FINANCE FINANCIAL MANAGEMENT SERVICE

Based on ICUBE, various intelligent financial management applications can be developed, including monetary funds, digital assets, credit assets and so on;

The applications of intelligent financial management service based on self-finance realizes the whole service process of financial management through smart contracts, including user authentication, anti-fraud,

investment model of financial management products and so on;

Financial management applications can be based on personal self-finance AI model to intelligently match the best products in order to maximize investment benefits;

SELF-FINANCE CROWD-FUNDING SERVICE

Based on ICUBE, various intelligent applications can be developed, including project crowd-funding, activity crowd-funding and so on;

The applications of intelligent crowd-funding service based on self-finance realizes the whole service process of crowd-funding through smart contracts, including user authentication, anti-fraud, investment model of crowd-funding products and so on;

Crowd-funding applications can be based on personal self-finance AI model to intelligently match the best products in order to maximize investment benefits;

SELF-FINANCE INVESTMENT SERVICE

Based on ICUBE, various intelligent applications can be developed, including equity investment, digital asset investment, project investment and so on;

The applications of intelligent investment service based on self-finance realizes the whole service process of investment through smart contracts, including user authentication, anti-fraud, product investment model and so on;

Investment applications can be based on personal self-finance AI model to intelligently match the best products in order to maximize investment benefits;

SELF-FINANCIAL TRANSACTION SERVICE OF DIGITAL ASSETS

Based on ICUBE, various intelligent applications for digital asset transaction can be developed;

The applications of digital asset transaction service based on self-finance realizes the whole service process of digital asset transaction through smart contracts, including user authentication, anti-fraud, transaction risk model and so on;

The applications of digital asset transaction can be based on personal self-finance AI model to intelligently match the best products in order to maximize investment benefits;

INTELLIGENT MUTUAL INSURANCE SERVICE

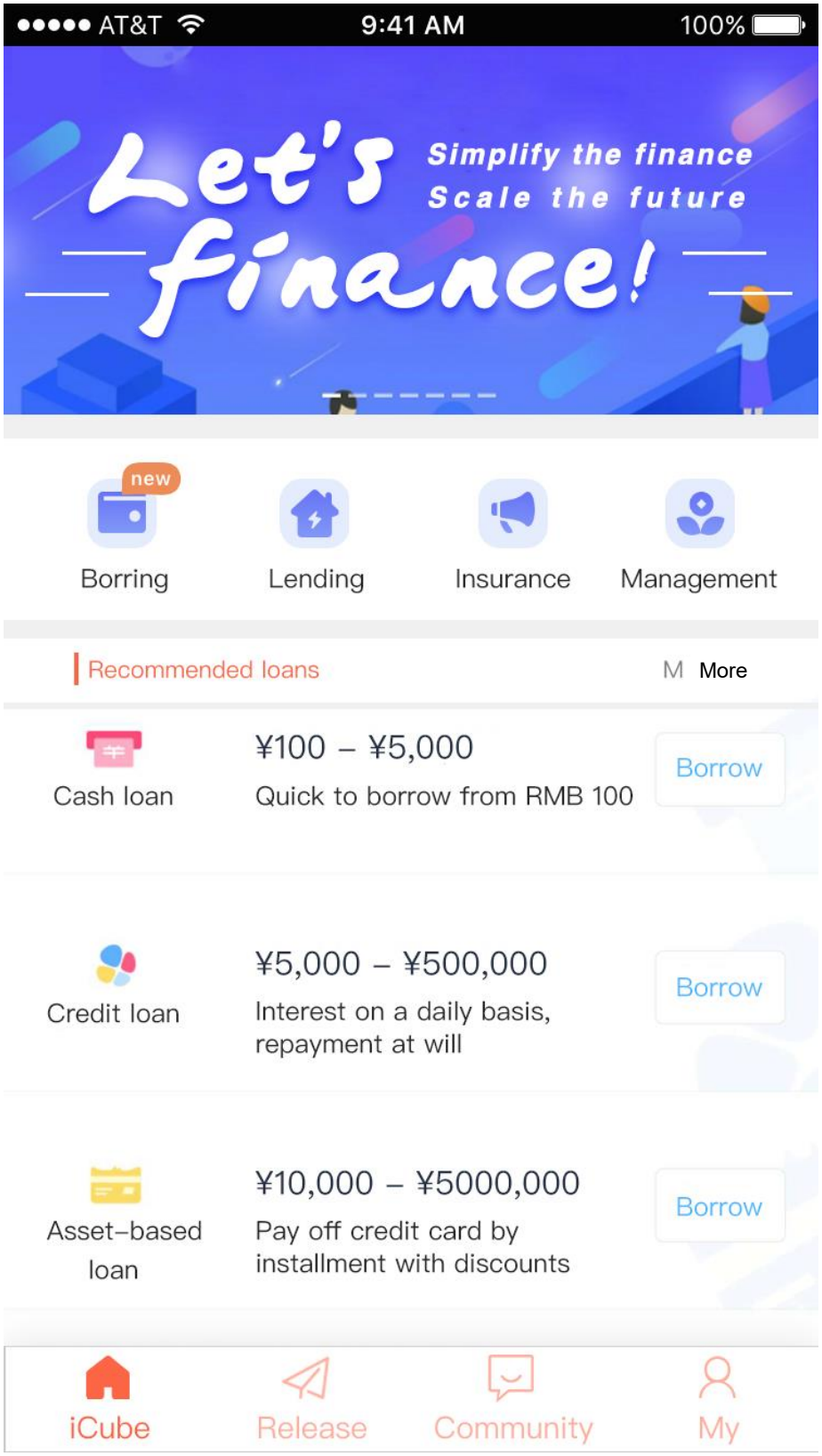
Based on ICUBE, various self-finance mutual insurance applications can be developed, including self-service accident insurance, self-service critical illness insurance, self-service property insurance and so on;

The applications of intelligent investment service based on self-finance realizes the whole service process of investment through smart contracts, including user authentication, anti-fraud, product investment model and so on;

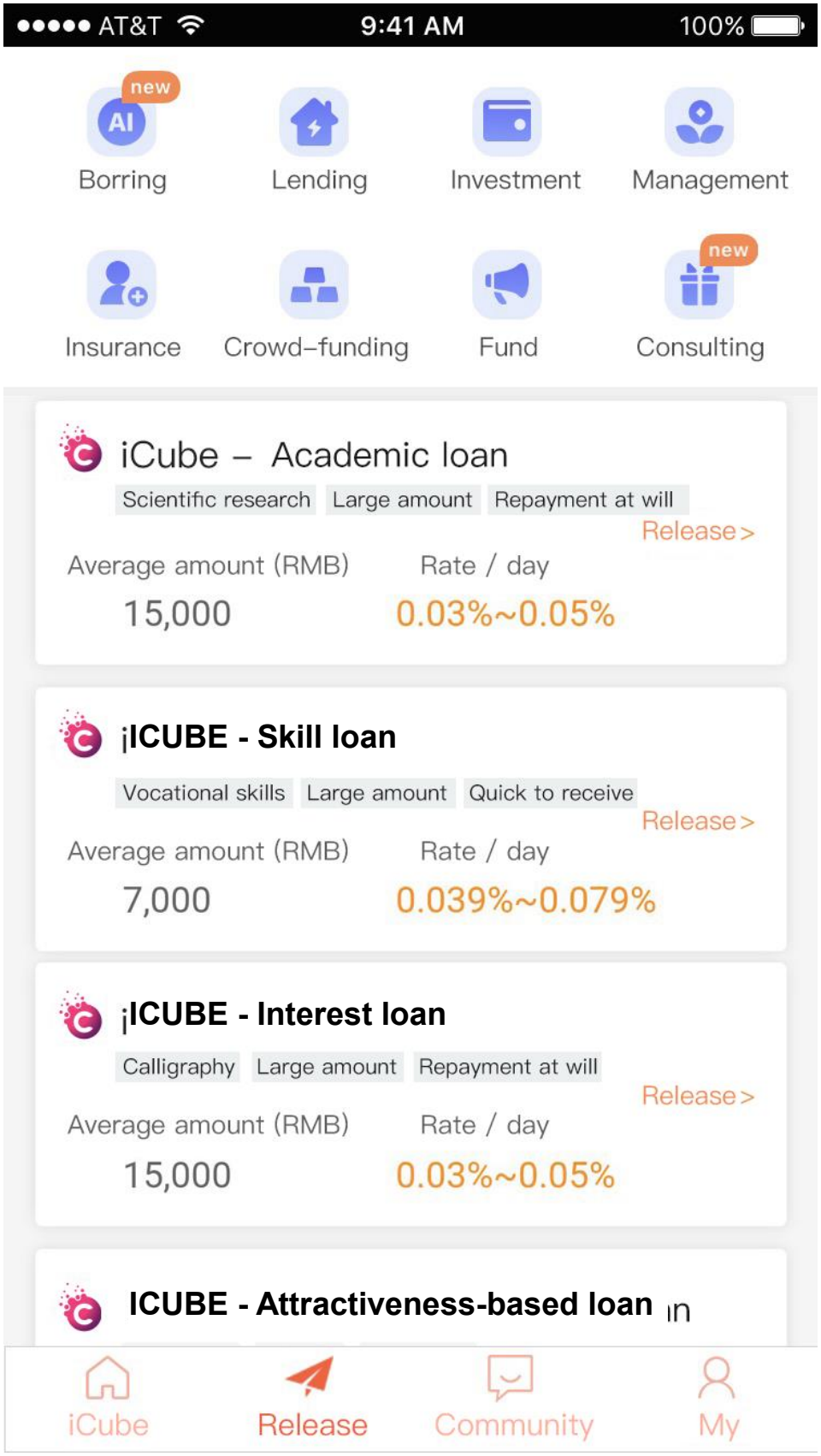
Insurance applications can be based on personal self-finance AI model to intelligently match the best products in order to maximize the benefits;

ICUBE SELF-FINANCE APPLICATION ECOLOGY

EXAMPLE OF MOBILE APPLICATIONS:



ICUBE SELF-FINANCE APPLICATION ECOLOGY



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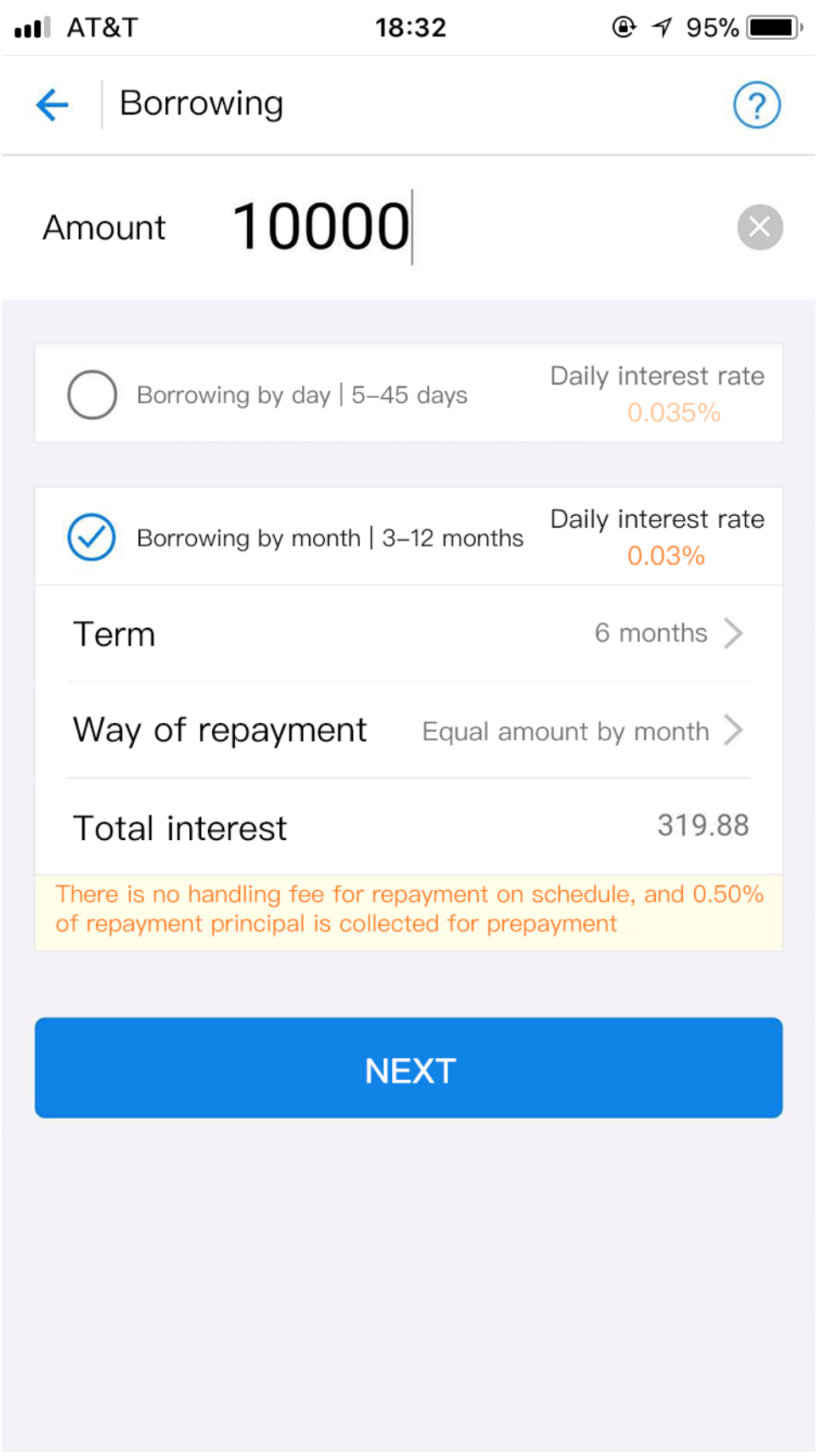

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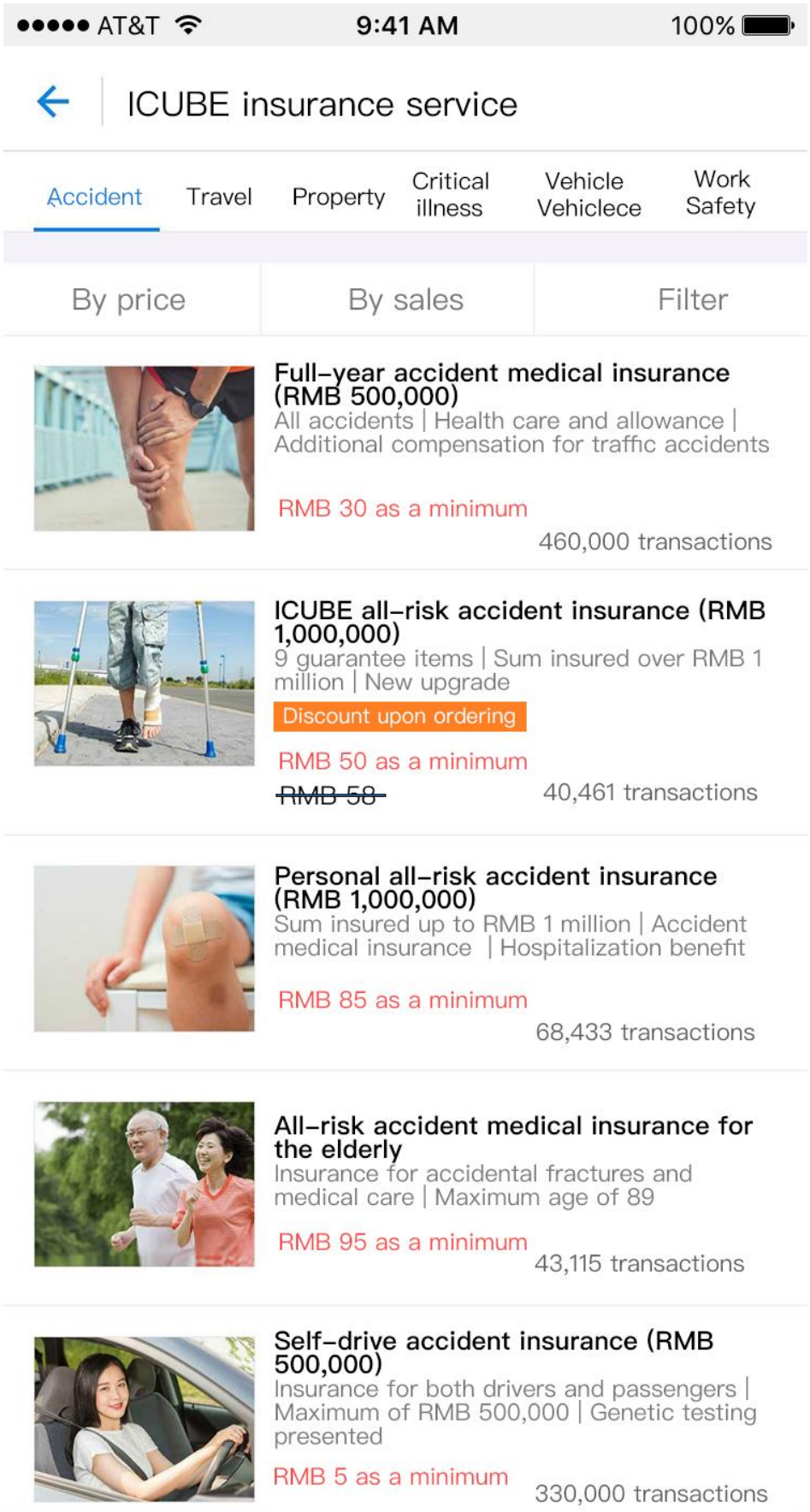

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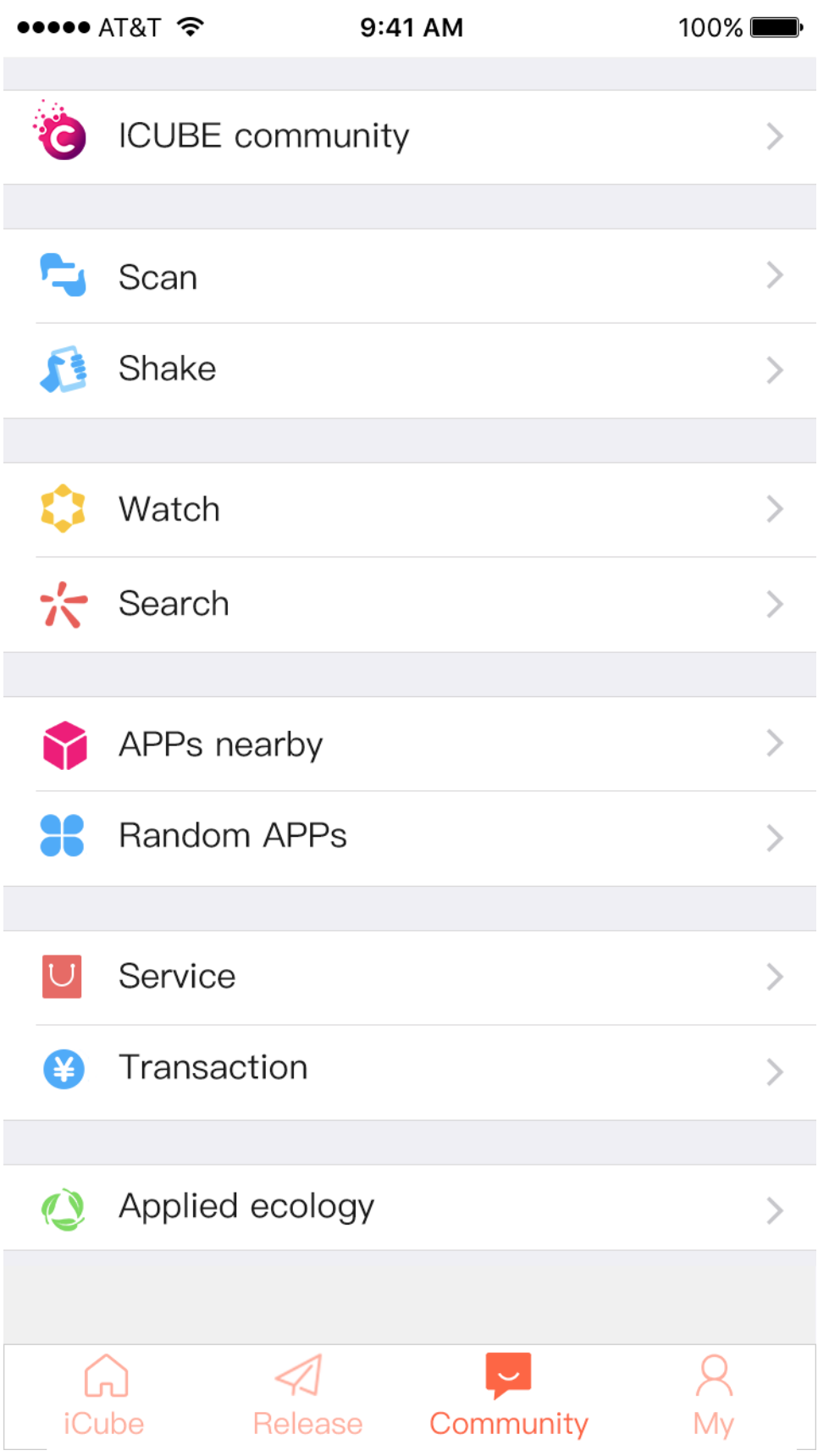

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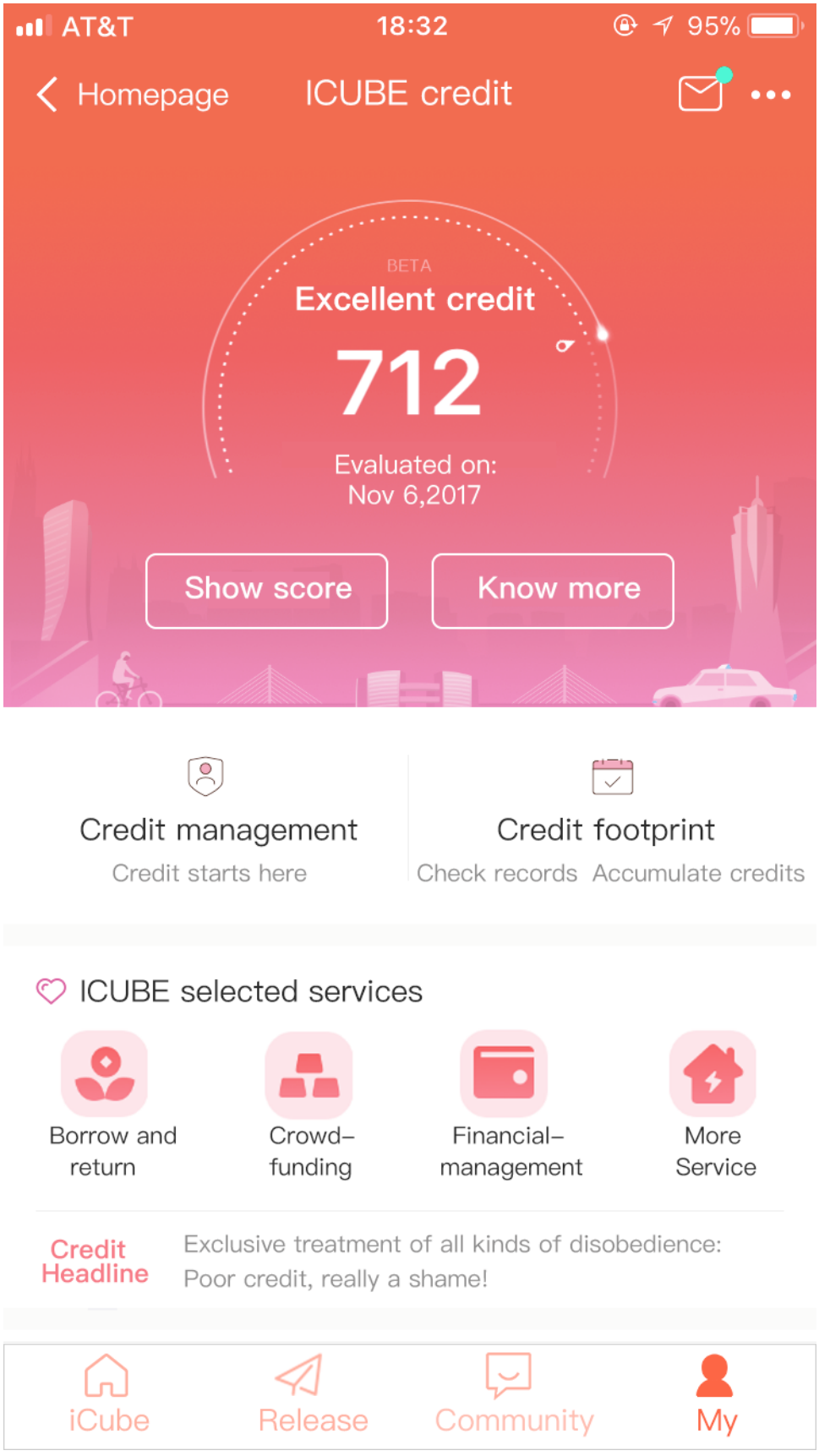

ICUBE FOUNDATION

ICUBE Foundation

ICUBE set up a foundation in Singapore, which is responsible for ICC issuance, development and promotion. Registered in Singapore,

the foundation aims to become an independent and democratic governance body for all members of ICUBE shared economic economy. Its functions are as follows:

- Carry out open governance of its resources in conjunction with other ecosystem partners
- Develop the shared ecological mechanism of data economy and maintain the benefit and value of each party in the mechanism
- Provide an open and sustainable platform and ecosystem for more developers

As time goes by, the foundation may be replaced by other, more innovative governance methods, but the establishment of formal governance organizations is an important step in the process.

The foundation will devote resources to three specific objectives including research, development and governance. The foundation will hire a development team to drive this series of efforts, refine the technology of the entire ecosystem, and continually maintain the open source code library to the continued benefit of all members of the ecosystem.

DISCLAIMER

Disclaimer

• This document is only used to convey information. The above information or analysis does not constitute an investment decision, and this document does not constitute any investment proposal, investment intention or abetting investment.

• This document does not constitute or shall not be construed as offering any sale or purchase or invitation to buy or sell any form of securities, nor is it any form of contract or commitment;

• Investors shall be clearly aware of the risks associated with ICUBE tokens, and any participation in investment means that they have understood and accepted the risks of the project and are willing to undertake corresponding results or consequences for this purpose;

• ICUBE team does not bear any direct or indirect loss of assets caused arising from participation in ICUBE projects;

• The financing targets of this project do not include Chinese and American citizens;

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