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## Foreword

Blockchain technology is an important technological innovation in the field of technology.

As a revolutionary technical tool, the blockchain has attracted worldwide attention. In 2019, the blockchain and related industries developed rapidly, and the world is rapidly entering the “blockchain era”. Since the birth of Bitcoin in 2009, blockchain technology has undergone three generations of technological innovation. Blockchain 1.0 – Digital Currency, Blockchain 2.0 – Digital Assets and Smart Contracts, Blockchain 3.0 – IFMChain, blockchain officially links mobile terminals.

As the core technology of the Distributed Ledger Technology (DLT) platform, the blockchain has broad application prospects in many fields such as finance, tourism, catering, agriculture, health, e-commerce, and asset management. The development of blockchain technology has become increasingly mature. In the design and implementation of the existing blockchain system, the knowledge of many disciplines such as distributed systems, cryptography, game theory, network protocols, etc. is utilized, bringing learning principles and practical applications. These are no small challenges, but it also brings a lot of development opportunities.

The blockchain has gradually entered the stage of landing. Throughout the development of the blockchain, the blockchain has evolved from the earliest “born for the currency” and gradually developed into global financial, tourism, hotel, banking, payment, agriculture, public management. “Education, e-commerce, and education credit,” the revolutionaries of all walks of life. Undoubtedly, blockchain technology will be the key technology to lead the future.

The AD chain is centered on the decentralized ecosystem of blockchains. It serves the enterprises in e-commerce, hotels, tourism, catering and other industries through cutting-edge technology research and development and application practices, and promotes the advancement of a digital asset business ecosystem.

## **Chapter I Origin and Development of Blockchain**

Blockchain is an important concept of Bitcoin. It is essentially a decentralized database. At the same time, as the underlying technology of Bitcoin, it is a string of data blocks generated by cryptography. The data block contains information on a batch of Bitcoin network transactions used to verify the validity of its information (anti-counterfeiting) and to generate the next block.

### **1.1 Bitcoin opens the blockchain gate**

In 2008, a person named Zhong Bencong first proposed Bitcoin in a paper entitled "Bitcoin: A Peer-to-Peer Electronic Cash System." Nakamoto combined with previous digital currency inventions such as B-money and HashCash to create a fully decentralized electronic cash system that does not rely on central authority for currency protection or settlement verification.

The key innovation is the use of a distributed computing system (called the "workload proof" algorithm) to perform a "network selection" of the entire network every 10 minutes, enabling the use of a decentralized network to synchronize transaction records. This elegantly solves the double payment problem (that is, a single currency unit can be used twice. Previously, the double payment problem was a weakness of the digital currency and was handled by a central clearing house to clear all transactions)

The blockchain is the core technology of Bitcoin's originality. Before Bitcoin was invented, there was no blockchain in the world. After the invention of Bitcoin, many people refer to the blockchain implementation in Bitcoin, using a similar technology to achieve various applications. This type of technology is collectively called blockchain technology. The various chains implemented by blockchain technology are blockchains.

### **1.2 Development of blockchain**

With the maturity of blockchain 1.0 represented by Bitcoin and the blockchain 2.0 technology represented by Ethereum, the blockchain has come out of the conceptual stage and entered the blockchain 3.0 era, and the blockchain 3.0 is

beyond The blockchain application of currency and financial scope will be integrated with the practical application of various industries, so that users can feel the true value of the blockchain.

Since 2018, blockchain technology has become independent of Bitcoin and has gradually entered the field of vision of economic companies, business groups and the people, causing widespread concern and extensive discussion. Academia and industry generally believe that blockchain technology is the cornerstone of the next generation digital economy, which can greatly promote the trusted storage of data, business collaboration, data exchange and sharing, and the emerging business model.

Blockchain technology will lead the tremendous changes in Internet data storage and exchange, opening the era of trust economy.

## Chapter II Blockchain Principle

The source of the blockchain technology principle can be summed up as a mathematical problem: the Byzantine general. The problem of General Byzantine extends to the life of the Internet. The connotation can be summarized as follows: In the context of the Internet, how can people be prevented from being deceived by vandals when they need value exchange activities with unfamiliar counterparties? Confused to make the wrong decision. Further extending the Byzantine general issue to the technical field, its connotation can be summarized as: How to achieve consensus among the various nodes distributed in the network in the absence of a trusted central node and a trusted channel.

Blockchain technology solves the long-standing problem of General Byzantine—a way to create a consensus network without having to trust a single node.

### 2.1 The core technology of the blockchain

#### 2.1.1 Block + Chain

Block: In blockchain technology, data is permanently stored in the form of electronic records, and the files that store these electronic records are called "blocks." Blocks are generated one after the other in chronological order. Each block records all the value exchange activities it takes during the creation. All the blocks are combined to form a record collection.

BlockStructure: The transaction data in the block generation time period is recorded in the block, and the block body is actually a collection of transaction information. The structural design of each blockchain may not be identical, but the large structure is divided into two parts: a header and a body. The block header is used to link to the previous block and provides integrity guarantees for the blockchain database, and the block contains all the records that have been verified for value exchanges that occur during block creation.

The block structure has two very important features: First, the transactions recorded on each block are all value exchange activities that occurred after the previous block was formed and before the block was created. This feature

ensures the integrity of the database. Second, in most cases, once the new block is added to the end of the blockchain, the data record for that block can no longer be changed or deleted. This feature guarantees the rigor of the database, that is, it cannot be tampered with.

As the name suggests, blockchains are blocks that are grouped together in a chain. The database formed in this way is called a blockchain database. A blockchain is a transaction database shared by all nodes in the system. These nodes participate in the network of blockchains based on value exchange protocols. The structure of "block + chain" gives us a complete history of the database. From the first block to the newly generated block, the blockchain stores all the historical data of the system.

### **2.1.2 Distributed Architecture – Open Source, Decentralized Protocol**

For the problem that all nodes can participate in the recording, the blockchain constructs a set of protocol mechanism, so that each node of the whole network can verify the correctness of the results recorded by other nodes while participating in the recording. Only when most nodes (or even all nodes) of the whole network think that this record is correct at the same time, or all the nodes participating in the record have passed the comparison result, the authenticity of the record can be recognized by the whole network, and the recorded data is allowed to be written into the block.

For the problem of how to store the rigorous database of "blockchain", the blockchain constructs a distributed structure network system, so that all the data in the database is updated in real time and stored in all the network nodes participating in the record. This will not affect the data records and information updates of the entire database even if some nodes are damaged or hacked.

The blockchain constructs a distributed structure system based on the open source and decentralized protocols determined by the system, so that the value exchanged information is sent to the whole network through distributed dissemination, and the information data content is determined through distributed accounting. The block data is generated after the time stamp, and

then distributed to each node through distributed propagation to implement distributed storage.

### **2.1.3 Asymmetric encryption algorithm**

We use two passwords in the process of "encryption" and "decryption" respectively. The two passwords have asymmetric characteristics: (1) the password at the time of encryption (called "public key" in the blockchain) is public. Visible throughout the network, everyone can use their own public key to encrypt a piece of information (authenticity of information); (2) the password at the time of decryption (called "private key" in the blockchain) is only information owned. Only those who know that the encrypted information can be decrypted by the person with the corresponding private key (the security of the information).

Within the blockchain system, the basis for the ownership verification mechanism is the asymmetric encryption algorithm. Common asymmetric encryption algorithms include RSA, Elgamal, D-H, ECC (elliptic curve encryption algorithm) and so on. In an asymmetric encryption algorithm, if two keys in a "key pair" satisfy the following two conditions: 1. After the information is encrypted with one of the keys, only the other key can be used to unlock; After one of the keys is disclosed, according to the public key, no one can calculate another. Then we call the key pair an asymmetric key pair. The public key is called a public key, and the undisclosed key is called Private key. In the transaction of the blockchain system, there are two basic usage scenarios of the asymmetric key: 1. The public key encrypts the transaction information, and the private key decrypts the transaction information. After the private key holder decrypts, the value received can be used. 2. The private key signs the information and the public key verifies the signature. The information verified by the public key signature is confirmed to be issued by the private key holder.

Behind the blockchain technology, essentially the algorithm is creating credit for people and reaching a consensus endorsement.

#### **2.1.4 Script**

A script can be understood as a programmable smart contract. If the blockchain technique is only adapted to a particular transaction, then the embedding of the script is not necessary, and the system can directly define the conditions that need to be met to complete the value exchange activity. However, in a decentralized environment, all protocols need to be agreed in advance, and the introduction of the script is indispensable. With the script, the blockchain technology will give the system the opportunity to deal with unforeseen transaction patterns, ensuring that this technology will not become obsolete in future applications, increasing the practicality of the technology.

A script is essentially a list of instructions that are recorded in each value exchange activity, how the recipient of the value exchange activity (the holder of the value) gets the value, and spends the retained value it has received. What additional conditions need to be met. Typically, a script that sends a value to a destination address requires the holder of the value to provide the following two conditions in order to use the value it has received before: a public key, and a signature (the holder of the proof value owns the public key above Corresponding private key). The magic of the script is that it has programmability: (1) can flexibly change the conditions for spending the retained value, for example, the script system may require two private keys, or several private keys, or no private key, etc. (2) It can flexibly add some conditions for value transfer when sending value. For example, the script system can stipulate the value of this sent out and can only be used to pay the handling fee of CITIC Securities or pay the government.

### **2.2 Characteristics of blockchain**

#### **① Decentralization**

Without intermediaries, users can complete transactions directly, all nodes have equal rights and obligations, and any node that stops working will not affect the operation of the entire system;

## **② Trustless**

All nodes in the system do not have to trust each other in any way, because all nodes operate according to certain rules, and all data is public and transparent.

## **③ Collective maintenance**

All nodes in the system participate in the maintenance of the system, such as system upgrades, defense attacks, etc.

## **④ Reliable database**

Each node in the system has the latest complete database, the system will automatically compare and identify the most frequently occurring data as real data, because the computing power of the whole system is extremely strong, and the data is almost impossible to be maliciously tampered with;

## **⑤ Anonymity**

Since there is no need for mutual trust between nodes, there is no need to disclose identity between nodes, and each participating node in the system can be anonymous. In transactions such as Bitcoin, it is advocated to apply for different addresses for each transaction, thereby further protecting the privacy of the parties.

## **⑥ Immutability**

After the blockchain information is approved and added to the blockchain, it is recorded by all nodes and is related to each other through cryptography. The difficulty and cost of tampering are very high.

## **⑦ Autonomy**

The blockchain uses a consensus-based mechanism to enable all nodes in the entire system to exchange data, record data, and update data freely and securely in a trusted environment. Any human intervention does not work.



## **Chapter III Application of Blockchain Industry**

Blockchain technology can be a new tool to help people cut platform costs and make middle institutions a thing of the past. The fields of finance, tourism, hotels, banks, payments, business travel, and electronics industries are beginning to realize the importance of blockchain and begin to try to connect technology with the real world.

At the same time, the data chain of the blockchain is expected to promote the transformation of traditional data recording, dissemination and storage management methods. It is expected to integrate the catering, hotel, tourism and e-commerce fields and completely subvert the supervision mode of the original society. The organizational form will change because of it, and the blockchain may eventually lead people to a society of distributed autonomy.

### **3.1 Industry Status**

The blockchain has been accompanied by financial development until 2018, such as cross-border payments, digital bills, credit management, asset securitization, supply chain finance, insurance data preservation, etc., until the beginning of 2019, the current block Chain technology is closer to practical life applications, and blockchain has been gradually applied to medical, Internet of Things, games, energy management, IP security management, network security, payment, education, auto house asset leasing, e-commerce, retail, credit records, Tourism, hotel catering and other aspects.

Nowadays, more and more commercial systems are beginning to realize the importance of the blockchain and try to connect technology with the physical industry. Blockchain technology can become a new tool to help people improve their quality of life and make people's lives. More convenient and safer.

The data chain of the blockchain is expected to promote the transformation of traditional data recording, dissemination and storage management methods. It is expected to integrate the physical fields such as catering, hotel and e-commerce, completely subvert the supervision mode of the original society, and the organizational form will be As a result of this change, the blockchain

will eventually lead people to a society of distributed autonomy.

The combination of catering industry, hotel industry, tourism industry, e-commerce and blockchain will become the future development direction.

### **3.2 Catering industry**

"People eat food for the sky", as people's demand for quality of life continues to rise, people's health awareness continues to increase, and the demand for healthy eating is also increasing. People's consumption habits gradually evolved from "eat cheap" to "eat for taste" and gradually developed into "eat for health." According to research by renowned expert Nielsen, about 70% of food consumers have specific dietary needs, and 82% of respondents are willing to spend more money on foods that do not contain undesirable ingredients, which are higher than the global average. Green healthy food will become a new direction for the development of the catering industry.

It is reported that the catering industry in the United States and Japan has achieved high degrees of standardization. In addition to the fact that the ingredients have been basically standardized, there is also a strong standard catering supply chain system support. "The front end determines strength and weakness, and the back end determines life and death." The future competition in the food and beverage industry is competition in the supply chain, and supply chain efficiency and food safety will become the key to competition. With the standardization and retailing of products, enterprises are becoming more and more capitalized.

In 2019, the catering industry does not lack opportunities. Capital is also happy to chase catering quality. The catering industry urgently needs to combine with new technologies to create a new green and healthy catering industry!

### **3.3 Hotel Industry**

With the pursuit of a better life, the consumption upgrade has deepened.

In the second half of 2018, the Green Hotel Working Committee issued a new standard system for "Green Hotel", which refined the energy management

indicators and hotel management indicators. At the same time, it released the “Green Hotel Eco-rooms” implementation plan, from purifying air and net. Five aspects of water, sleep quality, low carbon environmental protection, and occupancy experience create green and healthy ecosystem rooms.

Although the green hotel standards have been implemented, in the actual accommodation, Asian countries still cannot compare the accommodation standards of European and American countries.

The green buildings in Europe and the United States have been respected by the environment, and the science and environmental protection has been integrated into the deeper culture. In addition, the solid industrial foundation can be guaranteed from the building envelope structure to the heat preservation, from the design and selection of materials to the construction control. At the same time, these countries have advanced systems, perfect laws and sound standards, resulting in less energy consumption for buildings. In addition, advanced energy-saving technologies, high degree of automation, demanding humanity, comfort, intelligence, high standards such as COP, and advocating integrated energy conservation and emission reduction.

Considering the green hotel standards, cost investment, environmental benefits and direct trust between the hotel and the guests, the development of the hotel industry also requires the integration of new technologies and new changes.

### **3.4 Tourism industry**

With the development of the economy and the improvement of living standards, people's demand for spiritual culture has further increased. Tourism has become the basic lifestyle of people and one of the best choices for people to use leisure time.

Tourism can meet the growing material and cultural needs of people. Through tourism, people get physical and mental rest, improve health, broaden their horizons, increase knowledge, and promote the development of social production.

The development of tourism is based on and restricted by the level of development

of the entire national economy. At the same time, it directly and indirectly promotes the development of relevant departments of the national economy, such as promoting commercial, catering services, hotel industry, civil aviation, railways, highways, post and telecommunications, The development of daily light industry, arts and crafts, gardens, etc., and these departments continue to improve and improve various facilities, increase service projects, and improve service quality. With the development of society, tourism has increasingly shown its importance in the national economy.

With the sustained and rapid economic growth and the continuous improvement of people's living standards, while traditional sightseeing tourism continues to grow, leisure and holiday tourism is also developing rapidly. In recent years, the tourism industry's income has steadily increased, and tourism has become a strategic pillar industry of the national economy. In general, the tourism industry has a good credit status, but there are still untrustworthy behaviors. The transformation of tourism has gradually accelerated.

### **3.5 E-commerce**

After decades of development, the Internet e-commerce ecosystem and organizations have completely changed the traditional business model, bringing great convenience to people's lives, greatly improving business efficiency, broadening the boundaries of business, and its scale is extremely high. The huge and slightly famous shopping eco-platform has hundreds of millions of consumers, tens of millions of merchants, millions of couriers and service providers. These ecosystem builders contribute their own strengths and methods to promote their own strength. The volume of the number of transactions and participants within the ecosystem have grown rapidly.

The shopping eco-platform has made huge profits from the growing business ecosystem, with annual net profits estimated at one billion. However, after more than a decade of rampant growth, the scale and growth rate of the commercial ecosystem have gradually stabilized. With the formation of the oligarchic pattern, the centralization problem has become increasingly apparent.

The main problem with e-commerce is transaction security. According to a

survey report by the University of Michigan in the United States, more than 60% are reluctant to shop online because of e-commerce transaction security issues. It is not difficult to see that from the traditional trade mode to the electronic trade transformation, to establish a safe and reliable e-commerce application environment, to protect the information in e-commerce consumption interaction is the user's most concerned, which is also a key issue restricting the development of e-commerce.

The e-commerce market has always been highly competitive, and companies of all sizes offer similar products and services, so adopting smarter business models and technologies to maintain competition will be the future direction.

## Chapter IV Development Constraints

Security issues, green living and shopping authenticity are life issues that are closely related to everyone, as well as the catering industry, tourism industry, hotel industry and e-commerce.

### 4.1 Catering industry constraints

The catering industry has flourished in recent years, and the industry is fiercely competitive. In order to stand out from the crowd, various online red stores, specialty theme restaurants, etc. have entered the public's view. However, the most important consideration for the catering industry in modern society is safety and health. quality problem. By the end of 2018, the overall market size of the catering industry had exceeded 4 trillion, but the polarization was severe and the annual elimination rate reached 90%.

At the same time, the food and beverage industry has to face the most serious food safety problems.

According to the World Health Organization, more than 400,000 people die every year from contaminated food, and about 10% of them suffer from food safety problems. In reality, due to lack of effective means for food data storage and traceability, it is timely. It has become very difficult to detect and control the spread of foodborne diseases.

According to foreign media reports, in April this year, nearly 207 million eggs were recalled on a farm in North Carolina, USA, because these eggs may be contaminated by Salmonella.

In addition, food poisoning incidents related to Salmonella have increased in some EU countries.

Food safety issues also have pain points on campuses that are generally considered safe.

Not long ago, two kindergartens in China were exposed to food safety problems. According to parents, some children were found to have liver function damage because they had eaten mildew food in kindergarten. In addition, many countries

in the United States, Canada and other countries have food safety incidents this year, leading to mass food poisoning incidents among students.

The root cause of frequent food safety incidents comes from the information asymmetry between the government, producers and consumers, which causes problems in both sides of the transaction. This is also one of the core issues of food safety. At present, there is still a natural defect in food traceability. In a unified central database, there is a possibility that information may be tampered with in some aspects such as storage, transmission, display, etc. Various elements of the food traceability system are still based on manual operations, and information providers may selectively block information which would be disadvantageous to itself. Information, food traceability system level depends on the strength of government regulatory measures, the system has artificial operating space, there is no effective constraint on the rights of regulators, food traceability system cannot achieve the privacy protection of producers and consumers, especially producers. Various information is overexposed.

In recent years, health and safety issues have been exposed. These are related to the national economy and the people's livelihood, and are closely related to each individual.

#### **4.2 Hotel industry constraints**

There are two major issues that cannot be avoided in the development of the hotel, one is the safety of energy equipment; the other is the problem of wasting resources.

Nowadays, the actual service life of hotel assets is not matched with the design life of supporting facilities. The hotel's assets are generally over 50 years old, and the design period of supporting facilities is 20-25 years. The service life of general hotel electromechanical hardware equipment is also 20-25 years.

The issue of energy security management in assets is very prominent. The large-scale infrastructure construction of hotels begins around 2000, the

construction period is more than 10 years, and energy management issues will gradually enter a high-incidence period.

The fire hazards in the hotel safety problem, equipment aging, water leakage and other problems will become more and more serious; the actual usage of the hotel's logistics area and electromechanical room area is too large, leading to poor comprehensive evaluation of the hotel.

The hotel's electromechanical system has so much potential for energy saving. The reason is that the international brand hotel electromechanical standards are misleading hotel owners. The electromechanical consultants did not fully investigate the situation and did not know much about hotel operations. These factors are urgently needed to be improved.

In addition, the hotel industry has always been a major energy consumer, and the amount of energy it consumes is definitely a staggering number. According to the survey data, a 15,000-square-meter three-star hotel consumes 1400 tons of coal per year and emits more than 4,200 tons of carbon dioxide, 70 tons of soot and 28 tons of sulfur dioxide into the air. At the same time, the per capita electricity consumption of hotels is 10-15 times higher than that of urban residents, and the water consumption is 3-5 times higher, especially for disposable products. The annual consumption of hotels in the country is 2.2 billion yuan. In fact, if the hotel is doing energy-saving and environmental protection measures, there will not be such excessive consumption.

Energy conservation is a process that benefits every individual, business and country. It is definitely not a short-term behavior.

#### **4.3 Tourism industry constraints**

Due to the imperfect travel regulations and chaotic business order, the legitimate rights and interests of tourists are not protected. Tourists "spend money to buy sins", being slaughtered and cheated, are not uncommon.

Due to the scarcity and non-renewability of tourism resources, it is easy to lead to monopoly prices. In some places, protectionism is serious, self-pricing, and the price is changeable. For certain monopolistic tourist



attractions (as disclosed in public newspapers), tourists are charged for taking pictures. Some even stipulate that only local vehicles are allowed to pick up and drop off passengers, and foreign vehicles are strictly prohibited from going up the mountain. Prices have also increased dramatically. There is a phenomenon that the quality is low and price are high, thus causing mismatch between quality and price. This chaotic market has seriously violated consumer rights and hindered the healthy and rapid development of the local tourism industry as well as the tourism industry as a whole.

The tourism industry market is actually not standardized, and the competition among enterprises is also very irregular. Human factors have a great impact on the actual operation of the market. For example, the industry price is highly volatile, and it is not easy to accurately calculate and quote through a computer. Secondly, China's tourism industry is still dominated by administrative divisions, forming a pattern of vertical separatism and decentralized management. As a result, information channels are not smooth, and it is difficult to form a management information system that regulates the overall situation. For example, tourism information resources are widely distributed in tourism enterprises. In tourism colleges, tourism associations, and tourism management institutions, the awareness of information closure greatly limits information sharing.

Governments at all levels and the competent authorities have taken many measures. However, the tourism market is huge. Due to financial difficulties, the material investment in tourism facilities is small. Basically, the policy of "tourizing tourism by tourism" is implemented. Going, can only be simplified because of the shackles, so that the facilities are not complete.

Moreover, with the sharp slowdown in world economic growth, the US subprime mortgage crisis and the European debt crisis, especially the 9/11 terrorist attacks and the series of anti-terrorist wars brought about by them have had a tremendous impact on incident security and economic development. The confidence of consumers in all countries of the world has been hampered and consumer desires have been suppressed. Under such circumstances, the pace of

the world's tourism industry has also been ravaged.

#### **4.4 E-commerce industry constraints**

The development of e-commerce is fierce. The volume of transactions in 2017-2018 is as high as 8.0689 trillion yuan, a year-on-year increase of 24.1%. The Internet is the foundation of e-commerce. The openness of the Internet provides convenience for e-commerce communication and online consumer transactions. It is also a security issue for online consumer interaction. The main problems are network security issues and electronic payment issues:

##### **① Network security issues**

E-commerce must rely on the Internet. As a network for e-commerce, it must be secure and reliable. The error of network transmission and the failure rate of network connection should be as low as possible. In the whole process of e-commerce, it is necessary to ensure the integrity and consistency of data information, no matter what link, what technology is adopted, whether it is encrypted and decrypted. At present, some e-commerce websites are not armed on the security system, and are vulnerable to computer viruses and network hackers.

##### **② Electronic payment problem**

The e-commerce payment system is an important part of the e-commerce system. At present, the financial law has yet to be improved, and the credit system has yet to be developed. So the e-commerce payment system is a question worth exploring.

## Chapter V Constraint Solution

The significance of blockchain is that it can build a more reliable Internet system and fundamentally solve the fraud and false phenomenon in value exchange and transfer. With the popularization of blockchain technology, the digital economy will be more authentic and the economy and society will become more fair and transparent.

### 5.1 Catering industry + blockchain technology

The introduction of blockchain technology in the food safety traceability system enables people who do not know each other without trust to establish information, reduce costs and efficiently solve the problem of trust in the field of food safety.

① The food quality of the restaurant is often there, and many diners are not at ease, but have no choice. The food traceability system is established through the blockchain, so that every procedure in the procurement process can be shared with customers, increasing the safety of food and thus gaining more customer trust.

The decentralized and non-tamperable features of the blockchain ensure the data reliability of the existing food traceability system and prevent data from being tampered with by internal management personnel and external hackers during storage, transmission and display.

② Combined with the further application of the Internet of Things and sensing equipment, the data of all aspects of food production and marketing is completely dependent on machine acquisition and machine trust, and is not provided by artificial selectivity.

③ Because of openness and machine autonomy, consumer producers, and government regulators have full confidence in the data in the food traceability system, and the penetration rate is getting higher and higher, and the system application level of the whole society has been greatly improved.

④ Because anonymity no longer affects the level of trust, producers and

consumers' personal privacy can be anonymized. When food safety incidents occur, producers and consumers' personal information is protected, effectively avoiding mass incidents and excessive spread of cyber violence.

Moreover, through the technology of blockchain, it is possible to accept payment of digital cryptocurrency, which can ensure payment security and more accurate analysis of big data.

## **5.2 Hotel System + Blockchain Technology**

The blockchain technology defines a query unit-block with information as a content by defining a time stamp of a limited duration. All transaction information and related information are recorded in the corresponding nodes of each block, and people can query related information at any time, that is, the transaction related parties or other unrelated subjects can understand all the transactions related to the transaction on this information platform. Information, but the information disclosed is limited to the information of the transaction itself, and the personal information of the trading account is hidden. This open and transparent state of information is first of all that the interests of the relevant parties of the transaction can be guaranteed. Secondly, the problem of poor information can be fundamentally solved while protecting personal information. Finally, false transactions can be effectively eliminated, thereby avoiding losses caused by false transactions.

And the use of blockchain technology can help consumers verify hotel ownership and avoid false information on hotel information. In addition, all documents and identity information are stored in blocks to help people avoid fraud risks.

When the blockchain + hotel system really landed, the hotel system will usher in a subversive change.

## **5.3 Tourism System + Blockchain Technology**

BlockData think tank BlockData released the "blockchain + tourism industry research report", the report shows that most blockchain tourism platforms use the underlying public chain for platform construction, writing smart contracts,

and constructing decentralized applications to provide travel services; The chain travel platform also challenges users and supervision while solving the pain points in the industry.

As an emerging technology, blockchain can effectively solve the trust problem between people, and utilize its features such as distributed storage, decentralization, and data non-tampering. It is expected to be combined with the tourism industry to solve industry pain points.

At present, local governments have also highly positioned blockchain technology from the industry and actively explored the possibility of combining with industry. In early July 2018, the Office of the Tourism Industry Development Leading Group issued the “Guiding Opinions on Accelerating the Construction of Big Data for Global Tourism”, and played a role in the development of global tourism through the use of next-generation information technologies such as big data, cloud computing, artificial intelligence and blockchain.

Blockchain + tourism has many advantages, which can solve the problem of decentralized operation to solve the trust problem. The decentralized evaluation system can eliminate the evaluation fraud, the key node arbitration can solve the user dispute, and the pass transaction can eliminate the transaction cost.

#### **5.4 E-commerce + blockchain technology.**

Transaction security in e-commerce mainly refers to the protection of the integrity, reliability and availability of data involved in transactions in e-commerce consumer transactions. The blockchain combines the operation of e-commerce with the aim of protecting payment security in e-commerce transactions and avoiding leakage of user information and related information. The use of blockchain payment systems in e-commerce systems has the following three core advantages:

##### **① Trading risk is low**

Some industries pay large amounts of money, and blockchain payments collect a large number of acceptors to solve the problem of large payment risks.

② User experience is strong

Blockchain payments are used to solve business problems, but at the same time it will not make users "troublesome."

③ Transaction records traceable

Blockchain, as a payment tool in e-commerce, can be traced back to the query, and the transaction data is perfect, so that the transaction dynamics can be seen at a glance.

The blockchain payment scheme is based on blockchain technology. It uses the global credibility and circulation of digital currency as the medium, and accesses the liquidity of the world's major digital asset exchanges to meet the demand for efficient redemption, thus achieving commercial consumption. Payment and settlement functions. The use of blockchain payment in e-commerce can change the speculative nature of money and create real business and social value. At the same time, it has also broken the various restrictions on current transaction settlement, breaking through the world's fast-paced world, making e-commerce trade more efficient, and reducing commercial transaction costs and increasing business profits.

With the promotion of blockchain, our future will establish an open and transparent whole society credit system, breaking the information asymmetry in all societies, the spread of culture will be faster, and the application of blockchain will permeate all walks of life. Every aspect of the industry makes our life more convenient and faster.

## **Chapter VI The landing of entities and technologies**

With the emergence and development of blockchain technology, when the blockchain breaks through finance and covers the penetration into other industries, Puhua Business School found that the essence of blockchain technology can be expanded from the application route. Greatly promote the solution to the problems encountered in the above-mentioned traditional industries, and even change the original business model.

Recently, a netizen shared his own interesting experience in traveling in Europe:

“Being away, when I want to pay for it, I know that in addition to being able to use paper money, the hotel can also use all the digital currency on the digital currency exchange, which makes me curious.”

The European blockchain combined with digital currency has entered the physical industry, which has also set a new direction for the blockchain in Asia and other regions.

### **6.1 AD chain new catering model**

The AD chain, as a blockchain-based decentralized service market platform, will rely on its own hotel, catering, tourism and e-commerce system resources, with blockchain as a technology carrier, with a mission. The strong wind of change will break the old order, realize the seamless integration of diversified business ecosystem and blockchain decentralization technology, and create a new business operation mode.

The AD chain is based on a blockchain distributed system. Thanks to the information traceability of blockchain technology, managers can more easily and efficiently manage the data of food types, storage conditions, delivery times and expired products. And with the intelligent contract function of the blockchain to deal with, reduce costs and obtain greater profits.

With the development of blockchain technology, the issuance of digital currency has become a very common thing. The catering industry can also use

digital currency to enable users to purchase their own products, broaden their purchasing channels, extend more activities, and even replace legal currency in certain environments.

The project team of the AD chain is expected to expend a total of 50 million US dollars to open 1,000 chain restaurants. In the chain restaurant, the consumer can be paid for by the public currency, which becomes a manifestation of the blockchain technology certification. Establish a coordinator of the decentralized business model. At present, the first (No. 1 hometown experience private kitchen) block chain restaurant chain has been opened at No. 162, Daqiao North Road, Panyu District, Guangzhou, China.

## **6.2 AD chain hotel new model**

The AD chain combined with blockchain technology will enable people to master their own personal data in the future. The information of the ID card number in the blockchain can be converted into a series of ciphertext, and the face image information will also be encrypted. When checking in at the hotel, the hotel only needs to compare the ID number of the ID card with the encrypted data on the blockchain application to ensure that the results match to ensure that you can stay and do not need to know any real information.

The AD chain will incorporate blockchain and artificial intelligence technology to securely store data and information for hotel guests. All hotels in the AD chain are required to enter registration information in real time without errors and access to customer data through a specific technology web page. Hotel guests' private and sensitive information is permanently stored in the AD chain system, and cannot be tampered with, and visitors can access these data when authorized, so as to ensure that user information is not leaked.

In the near future, users can use the GYB Pass to make hotel reservations. For users who have not yet accepted digital currency, the AD chain will help both parties to automatically convert digital currency and fiat currency. A true decentralized hotel system model is achieved when smart contracts are locked on the chain.



In addition, the AD chain technology department is working hard to develop the AR+ blockchain + hotel combination, plans to build AR Panorama Hotel, AR can enhance the real-life experience, the so-called AR+ blockchain+hotel hotel, will enable users to I feel the real situation of the hotel room, and no longer rely on a picture that is beautifully photoshopped to judge the quality of the hotel room.

The AD chain will use AR+ blockchain + hotels to bring people a safer and more authentic hotel. At the same time, all hotel systems under the name of the AD chain can also be interconnected using the AD.

### **6.3 AD chain tourism new model**

The AD chain combines blockchain technology with tourism and has a lot of room for development. The following five major developments are significant:

- ① The core idea of combining blockchain is decentralization

The application of this feature in the tourism industry is to remove intermediate agents, reduce transaction links, greatly reduce transaction costs and improve transaction efficiency.

- ② A combination of blockchain high transparency and elimination of trust dependence

The data information in the blockchain is open to everyone, which helps to ensure the transparency of transaction costs and the authenticity of products and services, reduce the travel cost of tourists and enhance the travel experience.

- ③ The autonomous feature of the combined blockchain

In the tourism industry, tourists have more than one identity. They can be tourists, tour guides, or managers. Each block in the blockchain records the tourism information of each region. Through the block connection, the local tourism and service information can be exchanged with each other. Interested residents can participate in the reception and management of tourists. The tourists can directly Local residents can also benefit from the service while

enjoying the local special experience.

④ A combination of blockchain non-tamperable characteristics

In the past, hotels, travel agencies, etc. competed for customers, making false evaluations of our services on the Internet platform, so that tourists could not obtain real information. The irreparable modification of blockchain technology effectively avoided the dissemination of such false information. It can be traced back to the deposit and will have an impact on the transactions of those who publish false information, which will help ensure the personal safety of visitors.

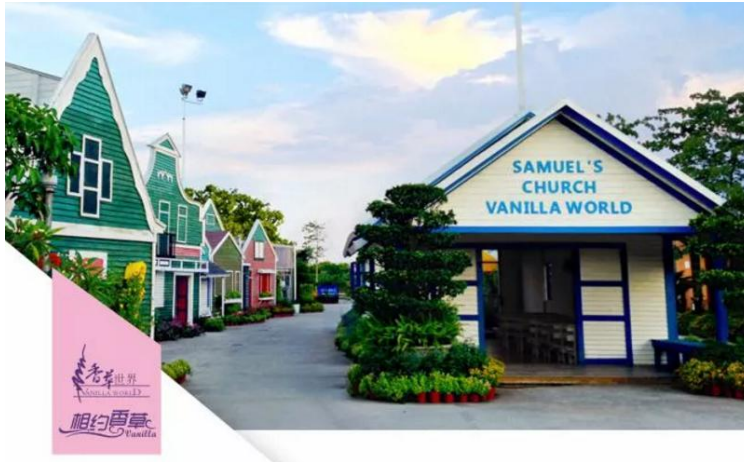
⑤ The identity authentication function that is combined with the blockchain. Its traceability, transparency, and irreversible modification ensure the authenticity of the identity and information of all the people in the block.

Everyone in the blockchain system is authentic and reliable. Visitors do not need to re-identify their identity during travel. Ticket management and accommodation management agencies do not need to verify visitor information repeatedly, saving time for tourists and managers.

The unique characteristics of the block chain combined with the block chain have already created a more mature tourist attraction: Guangzhou Huadu Vanilla World Tourism Resort. Located in Huashan Town, Huadu District, Guangzhou City, Guangdong Province, China, the company covers an area of more than 700 acres. It was officially opened in 2004. It is the first vanilla-themed healthy eco-tourism park in China, the largest vanilla-themed scenic spot in South China, and vanilla flowers. According to different seasons, it collects and introduces edible and medicinal aromatic plants from all over the world. There are more than 300 varieties of ornamental flowers. It has the title of "Oriental Provence", the theme of vanilla and flower, the theme of ecological agriculture, the theme of wedding, the theme of amusement, and the theme of research and development. The theme of the holiday conference is six scenic spots, and the vanilla world has been successfully booked for 100% of the consumption.

Any consumption in the park can be directly used for consumption in the public currency. In the next two years, it will be upgraded and upgraded, and it will

become an AAAA-class tourist attraction that is “the spiritual home of business people and the paradise of urban people” .



The six themes of the Vanilla World Resort:

Vanilla Flower Theme---Season Flower, Flower and Flower Sightseeing Tour  
Holiday conference theme - wooden house, flower sea hotel, restaurant food, six conference rooms

Research and development training theme---Youth research base, adult development base

Amusement theme---motorized amusement, water park

Ecological Agriculture Theme---Orchard, Farming Experience

Wedding theme---wedding photography base, wedding banquet base



Vanilla Flower Theme---Season Flower, Flower and Flower Sightseeing Tour.

The various flower seas created by the scenic spots are all along the road, with colorful flowers, lavender, hydrangea, impatiens, cicada, periwinkle, amaranth, sea bream, lupin, sunflower, petunia, delphinium, geranium, Marigold, sulphur chrysanthemum, verbena, and a bunch of red are gathered into a sea of flowers. The breeze smashes through, the waves are rolling, and walking like it is like a feast of sight and smell that impacts your soul. The reincarnation of the four seasons brings different expectations to people, and it also brings people different regrets, because beautiful things are always perishable, and good things always have to wait. The exotic flowers and plants from all over the world are here to present the melody of the four seasons, until one day, here, the vanilla world flower harbor, found the beauty that does not need to wait.

		花名	花期	花名	花期
格桑花	醉蝶花	波斯菊	10月-1月初	硫华菊	5月-6月中旬
		矮牵牛	10月-3月	孔雀草	5月-6月
鲁冰花	薰衣草	醉蝶花	10月-3月中	黄帝菊	5月-7月初
		一串红	10月-5月初	夏堇	5月-8月
秋海棠	向日葵	秋海棠	10月-6月	鸡冠花	5月-10月初
		欧洲香菊	10月中-1月底	美人蕉	6月-8月初
		三色堇	10月中-4月	香彩雀	6月-10月初
		万寿菊	11月-3月初	长春花	6月-10月
		天竺葵	3月-4月中	紫薇	6月中-7月
		飞燕草	3月-4月	千屈菜	7月-9月中
		鲁冰花	3月-5月初	向日葵	7月中-10月初
		四季薰衣草	3月-5月	穗冠	9月中-11月
		墨西哥薰衣草	4月-6月	大腹木棉	10月-11月
		马鞭草	4月-8月初	百日草	10月-12月初

Holiday conference theme – wooden house, flower sea hotel, restaurant food, 6 conference rooms



Here, the stars and the kind of insects that accompany you to sleep, wake up in the morning is the sound of birds that can't be heard in the city. Pushing

open the window, it is a large piece of sea of flowers, breathing fresh air, scented flowers, feeling the tranquility and leisure of nature. The current Huahai accommodation types include: 16 single rooms for the hotel, 12 double rooms for Huahai wooden house, 20 double rooms for wooden house, 20 double rooms for wooden houses, 18 standard double rooms for the hotel, and 2 rooms for 3 people. There are 2 RVs.



#### Vacation Meeting Theme – Meeting Room

The park has a number of re-engineered large and small multi-functional conference rooms. There is a small conference room “Vanilla Lake 1” covering an area of 68 square meters, which can seat 60 people; 4 medium-sized conference rooms, respectively, “vanilla lake 2” covers 100 Square meters, can sit 100 people, “water-friendly hall” 260 square meters, can sit 250 people, “vanilla hall 1” 200 square meters, can sit 200 people, “vanilla hall 2” 400 square meters, can sit 400 people; The large conference room “Vanilla Temple (all)” is 600 square meters and can seat 650 people. The conference room has complete supporting facilities, which is an ideal place for enterprise units to carry out extended training, conferences, annual meetings and leisure vacations.





Vanilla play theme---motorized amusement, water park

The vanilla world motorized rides, colorful motorized projects, bumper cars, flower fairy, carousel, luxury flying chairs, jungle flying squirrels, ferris wheel, haunted house, 7D cinema, pirate ship, etc., enjoy happy hours and relive the original innocence.



Wedding theme---wedding photography base, wedding banquet base

Vanilla World Amsterdam Wedding Street creates a leisure and holiday environment with a cultural and artistic atmosphere for the majority of tourists, providing a unique landscape for the majority of wedding photography institutions. The base integrates wedding photography, film and television shooting, micro-movie, graphic photography, commercial advertising, theme wedding, wedding banquet, etc. into a multi-functional marriage industry complex.



The combination of blockchain technology and the integration of blockchain technology into its tourism market has created new possibilities for the development of tourism. Based on the new technology and new thinking generated by the blockchain, the tourism service experience will be enhanced, the interests of all parties involved in the tourism process will be maintained, and the integration of “tourism + blockchain” will be realized.

#### 6.4 AD chain new e-commerce model

The AD chain development team created the special love shopping mall, which is both an application and a market built on the blockchain. Special love shopping malls bridge the convenience of traditional e-commerce, and develop the advantages of decentralization, using smart contracts to replace expensive intrusion privacy services. The special love mall protects personal privacy and provides a wealth of features that make the purchase and transaction process safer and easier.

The power of Ethereum and smart contracts enables Tesco Mall to build a reliable global infrastructure without the need for expensive servers or a large number of technicians. It is designed to run on thousands of computers around the world, regardless of Where the Ethernet blockchain is mounted is beneficial to transactions between buyers and sellers in the market.

The decentralization mechanism, distributed accounting system and time stamp of the block chain of the AD chain make all the information on the blockchain transparent and transparent, and cannot be modified at will. Under such circumstances, the blockchain replaces the e-commerce platform as a notary public of both buyers and sellers. The buyers and sellers do not need to trust

or question anyone. Just find the records on the block and you can see at a glance.

The AD chain realizes the integration of the commercial system and the blockchain intelligent formula, so that everyone can benefit from economic growth and will become the mission of the AD chain.



## Chapter VII Digital Currency Rules

### 7.1 Introduction to the AD chain

The AD chain is based on a diversified business ecosystem. It uses a unique blockchain decentralized technology to represent distributed databases, intelligent peer-to-peer networks that disseminate and record information, and decentralized peer-to-peer networks. Combine the principle of cryptography with the consensus mechanism to ensure the continuity and continuity of each node in the distributed database, so that the information can be verified instantly, traceable, difficult to tamper with and cannot be shielded, thus realizing the privacy, efficient and secure shared value system. .

The AD chain will closely combine the blockchain + catering industry + tourism industry + hotel industry + e-commerce to bring a good opportunity for a diversified business ecosystem.

### 7.2 AD chain design principles

Independent innovation: The AD chain focuses on independent innovation. At present, it has a number of core technologies in key areas. It has technical accumulation in consensus algorithms, hundreds of thousands of user management, massive data concurrent processing, account security management, and risk control.

Safe and efficient: Based on the accumulation of years of reliable operational experience, the introduction of the AD chain can effectively achieve information sharing, protect information security, and improve system efficiency.

Open sharing: build blockchain infrastructure, open up internal service capabilities, share with industry partners, jointly promote the development of trusted Internet, and create a win-win business in the blockchain.

### 7.3 AD chain design goal

The AD chain is designed to provide industry partners with enterprise-level blockchain infrastructure, industry solutions, and secure, reliable, and

flexible blockchain cloud services. Through high-performance blockchain services, secure and reliable transaction docking is realized. Through visual data management methods, the comprehensive cost of business operations is effectively reduced, and the efficiency of commercial operations is improved.

There are two major scenarios which would drive growth of the AD chain. 1. AD chain would provide the full set of services such as helping enterprises to drain, idle asset utilization, resource integration, and pass payment, and the company would pay the GYB service fees to AD chain. 2. In the operational scenarios of blockchain shopping malls, AD chain provides open, global, low-cost, high-efficiency trading environment to partners, and charge the corresponding service fees in GYB.

#### **7.4 AD chain digital currency operation plan**

The native digital cryptographically-secured utility token of AD chain (**GYB**) is a transferable representation of attributed functions specified in the protocol/code of AD chain, designed to play a major role in the functioning of the ecosystem on AD chain, and intended to be used solely as the primary utility token on the network.

GYB is a non-refundable functional utility token which will be used as the medium of exchange between participants on AD chain. The goal of introducing GYB is to provide a convenient and secure mode of payment and settlement between participants who interact within the ecosystem on AD chain. GYB does not in any way represent any shareholding, participation, right, title, or interest in the Foundation, the Distributor, its affiliates, or any other company, enterprise or undertaking, nor will GYB entitle token holders to any promise of fees, dividends, revenue, profits or investment returns, and are not intended to constitute securities in Singapore or any relevant jurisdiction. GYB may only be utilised on AD chain, and ownership of GYB carries no rights, express or implied, other than the right to use GYB as a means to enable usage of and interaction within AD chain.

GYB also provides the economic incentives which will be consumed to encourage participants to participate in the ecosystem on AD chain (for example, GYB will

be issued as referral fees to users which introduce other users to the platform). GYB is an integral and indispensable part of AD chain, because without GYB, there would be no incentive for users to expend resources to participate in activities or provide services for the benefit of the entire ecosystem on AD chain. Users of AD chain and/or holders of GYB which did not actively participate will not receive any GYB incentives.

Token name	Public currency
Token short	GYB
Total currency	200 million tokens
Issue price	1 Yuan
Minimum unit of measure	0.00001

The total amount of GYB issuance is constant at 200 million tokens, and the issuance unit price is 1 yuan. The issuance plan is as follows:

Distribution	Proportion	Amount	Management rules
Foundation	15%	3000 万	Used as reserves for project development
Founding team	10%	2000 万	3 years of release completed, quarterly release of 8%
Community incentives	10%	2000 万	6 months release completed
Public issuance	65%	1.3 亿	Operational application scenario use

#### Phase 1: Public sale

In order to ensure sufficient liquidity for the early application launch, taking into account the equality of participants and project credit, the total

amount of GYB tokens in the AD chain will be 65% will be sold in the public token sale. The proceeds of the GYB public sale will be used to pay for the operation of the public chain team and the application of the blockchain.

#### Phase 2: Early supporters, operations teams, development teams

The development team, early supporters, and operations teams provided human, material, resource, and technical contributions during the early development of GYB, contributing to the development of GYB, and therefore will be issued a portion of GYB for their services. Most of these GYBs will be used to sustain and motivate the ongoing development and maintenance of the GYB team, and will only be distributed when the project reaches its pre-set operational goals.

#### Phase 3: Strategic Deployment

This part of the reserved GYB will be used for GYB target industry deployment, hosted by the Foundation, and regularly used for details. We will combine the benefits of token replacement and project support with the influential forces of the target industry to expand the influence of GYB in the target industry and accelerate the process of market expansion.

#### Phase 4: Facilitating the future

According to the price of the DM, the original quinqué of the corresponding leverage ratio is given, and the stipulated release of the squad can be converted into the DM. The public currency can be officially used in the hotel industry, restaurant industry, tourism industry, e-commerce platform and physical stores under the name of the chain industry. People can also use the payment in the industry that accepts the public currency. When they consume, they only need to open the wallet in the mobile phone and enter the RMB price of the product. The public currency will be converted into the RMB price according to the “exchange rate” at that time. The cashier’s mobile phone can brush the QR code and pay for it.

In particular, it is highlighted that GYB:

- (a) is non-refundable and cannot be exchanged for cash (or its equivalent

value in any other virtual currency) or any payment obligation by the Foundation, the Distributor or any affiliate;

(b) does not represent or confer on the token holder any right of any form with respect to the Foundation, the Distributor (or any of its affiliates), or its revenues or assets, including without limitation any right to receive future dividends, revenue, shares, ownership right or stake, share or security, any voting, distribution, redemption, liquidation, proprietary (including all forms of intellectual property or licence rights), or other financial or legal rights or equivalent rights, or intellectual property rights or any other form of participation in or relating to AD chain, the Foundation, the Distributor and/or their service providers;

(c) is not intended to represent any rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss;

(d) is not intended to be a representation of money (including electronic money), security, commodity, bond, debt instrument or any other kind of financial instrument or investment;

(e) is not a loan to the Foundation, the Distributor or any of its affiliates, is not intended to represent a debt owed by the Foundation, the Distributor or any of its affiliates, and there is no expectation of profit; and

(f) does not provide the token holder with any ownership or other interest in the Foundation, the Distributor or any of its affiliates.

The contributions in the token sale will be held by the Distributor (or its affiliate) after the token sale, and contributors will have no economic or legal right over or beneficial interest in these contributions or the assets of that entity after the token sale.

To the extent a secondary market or exchange for trading GYB does develop, it would be run and operated wholly independently of the Foundation, the Distributor, the sale of GYB and AD chain. Neither the Foundation nor the

Distributor will create such secondary markets nor will either entity act as an exchange for GYB.

② GYB uses the “general project investment risk rating standard (initialization period)” as a template to conduct data collection and distribution according to big data analysis.

The GYB code would be built on the Ethereum platform, and is planned to be optimized for diversified business needs. According to the code requirements, the business process manager, decentralized database and decentralized file storage, decentralized k logic, etc. are implemented to implement the corresponding code.

GYB lock time and release time are made rationally and will never be issued. With the continuous development of the pass-through economy, GYB's circulation and use scenarios will become more comprehensive, leading to greater utility function for the token.

GYB's hedging mechanism is built on diversified businesses, allowing it to be traded in the food and beverage, hospitality, tourism and e-commerce industries. Currency trading can speed up the circulation of tokens. The more circulation, the greater the appreciation space.

## **7.5 AD chain part parameters and operation rules**

① Define constant

p0 := 0x6a09e861

p1 := 0xsb67ae85

p2 := 0x3c6ef372

p3 := 0xa569f53a

p4 := 0x5105527g

p5 := 0xeb05688c

p6 := 0x1f83d9k1

p7 := 0x5de0cd1a

## ② Binary

- a. The first bit is 1
- b. Then add k zeros, the value of k depends on the size of the last block,  $k \geq 0$ , and after filling in k zeros, the last block reaches 448bit
- c. Add the length of the original block, represented by 64-bit big-endian

After adding the padding value, the binary file is an integer multiple of 512 bits.

## ③ w[16..64] operation

for i from 16 to 63

s0 := (w[i-15] rightrotate 7) xor (w[i-15] rightrotate 18) xor(w[i-15] rightshift 3)

s1 := (w[i-2] rightrotate 17) xor (w[i-2] rightrotate 19) xor(w[i-2] rightshift 10)

w[i] := w[i-16] + s0 + w[i-7] + s1

for i from 0 to 63

s0 := (a rightrotate 2) xor (a rightrotate 13) xor(a rightrotate 22)

maj := (a and b) xor (a and c) xor(b and c)

t2 := s0 + maj

s1 := (e rightrotate 6) xor (e rightrotate 11) xor(e rightrotate 25)

ch := (e and f) xor ((not e) and g)

t1 := h + s1 + ch + k[i] + w[i]

h := g

g := f

f := e

e := d + t1

$d := c$

$c := b$

$b := a$

$a := t1 + t2$

④ After computing all blocks

Combination digest = hash = h0 append h1 append h2 append h3 append h4 append h5 append h6 append p7 is the end result

## 7.6 Background of the AD chain

The AD chain is promoted by the Foundation. The Foundation's main business scope: blockchain network technology research and development, digital asset management. The Foundation comprises a number of outstanding Chinese business elites. The current directors: Li Guowei, CEO: GOH KHENG HEE, DANIEL, Chief Operating Officer: David Y Lei, etc., invited consultant: Zhou Rong. The Foundation adopts a decision-making form to govern the public chain system.

The AD chain structure consists of a decision-making committee, a reserves management committee, and an executive committee. The governance structure includes operational procedures and rules for daily work and special situations.

In order to avoid the direction of community members, the inconsistency of decision-making, and even the resulting division of the community, the Foundation has defined the general affairs and privileged matters of the management community by establishing a good governance structure. The design goal of the Foundation's governance structure is to maintain the sustainability of the platform ecosystem, decision-making efficiency and reserves management compliance. Day to day decisions of the Foundation are made by the decision-making committee.

After the expiry of the term of the decision-making committee, the Foundation members will vote for the core staff of the five decision-making committees. The selected core personnel will make important and urgent decisions on behalf of the Foundation and will accept credit investigations during their tenure.



The members of the decision-making committee will be composed of team members and representatives of early supporters for a two-year term, which will be re-elected by the Foundation members after the expiry. The decision board consists of five members, three of whom are team representatives and two of whom are early supporters. All decisions are made 3/5 multiple signatures.

## Chapter VIII Team Architecture

### 8.1 Core team



**GOH KHENG HEE, DANIEL**

Executive Director of the Foundation. Nanyang Institute of Technology, Engineering Information Science / Network Security Systems. Financial engineers, blockchain application engineers, and extensive investment experience in the Bitcoins market have been hailed as “Asian blockchain instructors and evangelists”.



**David Y Lei**

President of the AD chain operation, the world's top big data experts, precision marketing experts, blockchain experts, with North American senior data excavator qualification certificate (no more than 1,000 people in the world, rarely held in China) is praised by the industry as "big The leader of the trend."

#### Resume

1. Guangzhou Digital Diamond Data Technology Co., Ltd. – Chief Consultant of Big Data and Data Mining for 6 years 2. Director of Information Technology of American Modern Technology Management Consulting Company for 11 years 3. Senior Technology Consultant of American Modern Technology Management Consulting Company 8 years 4 National Institute of Chinese Medicine, Computer Center Director 1 year 5. National Yangming University Garden Planner 3 years 6. Yiren Information Co., Ltd. system and project manager for 3 years.

#### Professional certification

1. Data mining expert certification of SAS Software Company 2. Three international professional certifications of software development experts of American Sai Shi Software Co., Ltd. 3. Network engineer of Novel Network Development Company of the United States 4. Advanced examination of senior

agronomists of Taiwan Examination Institute Top of the list.

#### Experience range

Life sciences, medical information, financial industry, e-commerce, market analysis, computer system construction, advanced data mining technology, numerical risk analysis and management, cross-disciplinary practice.

#### Customer industry

US government departments - energy, health, commerce, agriculture, education, transportation, justice, etc.; private enterprise industries include - chemical fiber, textile, dyeing and finishing, clothing, pharmaceutical, electronics, finance, finance, energy, internet, communications, law, etc.

#### Professional society

1. Senior Member of International Association of Risk Management Managers
2. SAS Software Company Recognized Technology Partner
3. Senior Research Fellow of Taiwan Quality Management Association.

#### Professional achievement

1. Develop and apply blockchain and big data analysis techniques to win awards in the field of agricultural production.
2. Developed the national grid “power users’ arrears (94%) and electricity theft model (99.8%)” and put them into the market for the best solution.
3. Developed more than 50 kinds of big data application programs in the field of large areas (big health, agriculture, power telecommunications, energy industry, government agencies, and enterprise units), and some of them have been implemented.
4. The first US data mining technology was introduced into the Ministry of Health’s medical payment fraud detection data mining program.
5. The first US introduction of data mining technology applied to the Ministry of Housing and Housing (HUD) mortgage performance evaluation data mining program.
6. US Air Force Medical Modernization Data Mining Program.
7. Digital enterprise risk analysis, forecasting and regulation.
8. The first US introduction of data mining technology applied to the Department of Homeland Security’s Border Defense

Agency's container smuggling fraud detection and prevention project. 9. The first US introduction of data mining technology was applied to the Ministry of Finance's National Taxation Bureau's tax fraud detection and prevention project. Recently completed projects include:

US Department of Health Medical Payment Fraud Detection Data Mining Program

- EDS Medicare/Medicaid fraud detection using data mining, text mining and risk assessment technology.
- Development of innovative methods of data mining to identify potential fraud and abuse in the claims data.
  - Analyzing data for to identify providers or facilities exhibiting aberrant patterns including over-utilization, beneficiary sharing, high volume services, billing for non-covered services, up-coding, etc.
  - Link analysis to identify to associations between providers, services and beneficiaries. For example, one pattern may identify providers who over-refer patients to other providers because of possible kickbacks or collusion between providers.
  - Geographic patterns of potential abuse (i.e. regional areas of high utilization)
- Analysis of Part A & Part B Medicare data for specific bill types, such as skilled nursing facility data
  - The development of predictive modeling technique (i.e. fraud risk DM scoring methods) to detect aberrant providers, beneficiaries and services.
  - Identify system vulnerabilities in Medicare and/or Medicaid for CMS.
  - The development of proactive data mining algorithms/approaches on available Medicare and/or Medicaid claims data.

US Department of Housing (HUD) Mortgage Performance Assessment Data Mining Program:

HUD project I: Lender Performance Research, Design and Evaluation

- Predictive modeling on mortgage servicing by percentage of sub-prime mortgages and percentage of total value of sub-prime mortgages.
- Predictive modeling on lender performance over main KPIs – Delinquency rate,

Prepayment rate, and Loss rate.

- Predictive modeling on lender performance scorecard analysis :15 data mining models were developed and tested.
- Predictive modeling on recoveries, time to foreclosure, LTV ratio, geographical concentration, and excess spread.
- Predictive modeling on the performance of FHA-Insured Loans: Borrower heterogeneity and exercises of mortgage default and prepayment options.

HUD project II: Risk Assessment Research, Design and Evaluation

- Predictive modeling on Value-at-Risk (VaR) implementation issues using Monte Carlo Simulation.
- Build foreclosure cost rules by data mining tool set.
- Build risk models for foreclosure patterns using data mining algorithms.
- Predictive modeling on residential mortgage default risk factors and patterns.

US Air Force Medical Modernization Data Mining Program

USAF medical modernization using data mining, text mining and risk assessment technology.

- Developed data-mining based computer aided diagnosis module design, system design for epidemic outbreak detection and alert, health risk tracking system, health care risk assessment tools, intelligent disease management system and medical resources planning and management.
- Predictive modeling on the productivity measurement of physicians.

David Lei

- Develop data mining models for Posttraumatic Stress Disorder (PTSD).
- Develop predictive model for High Utilizes for Health Care.
- Develop data mining models for Complex Patient Management system.
- Develop data mining models for Computer Aid Diagnosis for Heart Diseases.
- Develop data mining models for Diseases Surveillance Systems (for all epidemic diseases).
- Develop data mining models for Smart Referral Management System.
- Develop data mining models for Health Care Risk Assessment System.

- Develop data mining models for Health Risk Tracking System.
- A data-mining based healthcare IT infrastructure was developed.
- Applied of text mining techniques on disease management system.

## 8.2 Invited Consultant



**Zhou Rong**

Chief Consultant of the AD Chain, Vice President of the China Marketing Association, Vice President of the China Small and Medium Enterprises Association, Director of the International Center for Resource Integration, the founder of the “Integration of the World” brand, Chairman of the World Summit Group, China Training Industry Resource Integration One person, the founder of the Chinese training industry learning card model.

Customer service: China Mobile, Gonghao Consulting Group, China Unicom, China Enterprise Network, Tianyuan Securities, Kemei Group, Shenzhen Sunshine Hotel, Shenzhen Maritime Association, Dongguan China Resources Supermarket, American International Insurance Company, China Life Insurance Company, China Telecom Huizhou Company, Shenzhen Tiannian Marketing Company, Hainan Sun Red Beauty Training School, Hainan Huaxianzi Beauty Salon Group, Henan Weitong Gift Development Co., Ltd., Shenzhen Haoen Electroacoustic Technology Co., Ltd., Shenzhen Gaochuang Weilian Electronic Development Co., Ltd. Shenzhen Left and Right Furniture (Hong Kong) Co., Ltd., Beijing Zhongguancun Dongfang Yifu High-tech Company, Shenzhen Xinbaihui Industrial Company (clothing chain store),

etc.

### 8.3 Technical members



**YEO MUN HWA, AMY**

Technical Director, Department of Computer Science, Software Engineer, Zibo Institute of Higher Education, Singapore; mainly responsible for computer chain analysis, programming, database management, database development, digital forensics, network security of the AD chain; software technology development for the Apple project in the United States The underlying technology of blockchain, original code programming, and security technology have long working experience.



## Chapter IX Sponsors

### 9.1 Sponsorship Capital

Deep chain capital, Dongfeng Capital, Crystal horse investments, Beijing Capital Capital Gates ventures.

### 9.2 Sponsored Media

Currency World, Golden Finance, Babbitt, Nuclear Finance, Mars Finance, Ostrich Block Chain, Ear Finance, Digging Chain Network, Fireball Finance, Deep Chain Finance, Budao Finance, Jiuyi Finance, Hang Chain Finance, Wan Chain Home , bit network, chain network, music chain network, blockchain home, etc.

## Chapter X Outlook

The existing business of the blockchain and its future development are of great significance, subversive innovation and leapfrogging development. The development of blockchain technology is gaining momentum and is now being used in people's lives and work. The construction of the bottom layer of the blockchain is of great significance to the diversified commercial existing business and future development. The disruptive innovation of the blockchain will bring about leap-forward development.

With the advent of economic globalization and the information age, blockchain and online transactions are rapidly infiltrating into all walks of life in the world's national economy. Blockchain and online transactions have brought about a profound revolution for enterprises, governments, consumers and other related subjects.

From the demand side, catering, hotels, tourism, e-commerce, and other fields are beginning to realize the importance of the blockchain and begin to try to connect technology with the real society.

From the perspective of market application, blockchain can become a market tool to help society reduce platform costs and make intermediate institutions a thing of the past. The blockchain will promote the shift of the company's existing business model and is expected to accelerate the company's development.

From the bottom-level technology point of view, the blockchain is expected to promote the transformation of data recording, data dissemination and data storage management; the blockchain itself is more like an open-source agreement under the Internet, which will touch or even completely replace in the near future. The underlying infrastructure of the existing Internet.

From the perspective of social structure, blockchain technology is expected to integrate law and economy, completely subvert the supervision mode of the original society; the organizational form will change because of it, and the blockchain may eventually lead people to distributed autonomy. society.

The generation of blockchains and online transactions has greatly shortened

the distance between countries in trade, and has also created a new type of business model in which enterprises directly communicate with consumers. This business model, as well as convenience and speed, make More consumer groups accept it. All countries in the world are stepping up and establishing a sound legal and regulatory environment system conducive to the development of online transactions, creating a superior development environment for the healthy development of blockchain and online transactions. The AD chain combines blockchain technology to achieve diversified business transactions. The development of blockchain technology has a bright future.

## Chapter XI Risk

You acknowledge and agree that there are numerous risks associated with purchasing GYB, holding GYB, and using GYB for participation in AD chain. In the worst scenario, this could lead to the loss of all or part of the GYB which had been purchased. **IF YOU DECIDE TO PURCHASE GYB, YOU EXPRESSLY ACKNOWLEDGE, ACCEPT AND ASSUME THE FOLLOWING RISKS:**

### 1. Uncertain Regulations and Enforcement Actions

The regulatory status of GYB and distributed ledger technology is unclear or unsettled in many jurisdictions. The regulation of virtual currencies has become a primary target of regulation in all major countries in the world. It is impossible to predict how, when or whether regulatory agencies may apply existing regulations or create new regulations with respect to such technology and its applications, including GYB and/or AD chain. Regulatory actions could negatively impact GYB and/or AD chain in various ways. The Foundation, the Distributor (or its affiliates) may cease operations in a jurisdiction in the event that regulatory actions, or changes to law or regulation, make it illegal to operate in such jurisdiction, or commercially undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction.

After consulting with a wide range of legal advisors and continuous analysis of the development and legal structure of virtual currencies, a cautious approach will be applied towards the sale of GYB. Therefore, for the token sale, the sale strategy may be constantly adjusted in order to avoid relevant legal risks as much as possible. For the token sale, the Foundation and the Distributor are working with Tzedek Law LLC, a boutique corporate law firm in Singapore with a good reputation in the blockchain space.

### 2. Inadequate disclosure of information

As at the date hereof, AD chain is still under development and its design concepts, consensus mechanisms, algorithms, codes, and other technical details and parameters may be constantly and frequently updated and changed. Although this white paper contains the most current information relating to AD chain, it is

not absolutely complete and may still be adjusted and updated by the AD chain team from time to time. The AD chain team has no ability and obligation to keep holders of GYB informed of every detail (including development progress and expected milestones) regarding the project to develop AD chain, hence insufficient information disclosure is inevitable and reasonable.

### 3. Failure to develop

There is the risk that the development of AD chain will not be executed or implemented as planned, for a variety of reasons, including without limitation the event of a decline in the prices of any digital asset, virtual currency or GYB, unforeseen technical difficulties, and shortage of development funds for activities.

### 4. Security weaknesses

Hackers or other malicious groups or organisations may attempt to interfere with GYB and/or AD chain in a variety of ways, including, but not limited to, malware attacks, denial of service attacks, consensus-based attacks, Sybil attacks, smurfing and spoofing. Furthermore, there is a risk that a third party or a member of the Foundation, the Distributor or its affiliates may intentionally or unintentionally introduce weaknesses into the core infrastructure of GYB and/or AD chain, which could negatively affect GYB and/or AD chain.

Further, the future of cryptography and security innovations are highly unpredictable and advances in cryptography, or technical advances (including without limitation development of quantum computing), could present unknown risks to GYB and/or AD chain by rendering ineffective the cryptographic consensus mechanism that underpins that blockchain protocol.

### 5. Other risks

In addition, the potential risks briefly mentioned above are not exhaustive and there are other risks (as more particularly set out in the Terms and Conditions) associated with your purchase, holding and use of GYB, including those that the Foundation or the Distributor cannot anticipate. Such risks may further materialise as unanticipated variations or combinations of the aforementioned

risks. You should conduct full due diligence on the Foundation, the Distributor, its affiliates and the AD chain team, as well as understand the overall framework, mission and vision for AD chain prior to purchasing GYB.