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1.1 Industry Overview

The blockchain technology is essentially a distributed database technology. The so-called distributed database refers to storing data in multiple computers connected through the Internet, where the user can access and modify the data only through the entire database network. More generally, a blockchain at its core is a shared database built on the consensus model. Whether one needs to add a new database or to call an existing database, a consensus process needs to be followed (mainly PoW and PoS), and these data transaction are recorded into the whole network in a permanent and transparent way. Applications based on blockchain technology typically exhibit five characteristics: Decentralized, Collectively Maintained, Trustless, Unchangeable Data, and Anonymity. To sum it up, a blockchain uses its distributed public bookkeeping method, in order to enable concerned parties to make successful transactions, by helping them trust each other without the need of a third party. This is an innovative change in the way "public trust" is reached.

Melanie Swan, an American scholar, divides the impact of blockchain technology applications on various fields in her book "Blockchain: New Economic Blueprint and Guideline". The blockchain's past and future developments are divided into three eras: Blockchain 1.0 (Programmable Currency), Blockchain 2.0 (Programmable Finance) and Blockchain 3.0 (Programmable Society). The era of blockchain 1.0 is mainly about the digital currency era, which is represented by cryptocurrencies. It has constructed a decentralized system to make digital transactions and has realized various additional services such as fast transactions and cross-border transactions. Its main representative is Bitcoin. The blockchain 2.0 era is about the use of smart contracts. Its applications are used not only for digital currencies but they are expanded to the whole financial sector.

Additionally to cryptocurrencies, assets and contracts can now be digitalized and decentralized in order to be used in financial market. In a more wide perspective, Blockchain 3.0 is about the full application of the blockchain technology. During this era, global resources, and not only assets that belong to financial markets, will be decentralized. Its main fields include: Elections, Medical care, Notary, Public Welfare, Copyright, Cybersecurity, Car Rental, Academic Qualification, etc. Currently, the blockchain technology is now in the second era, while steadily moving towards the 3.0 era. Some scholars predict that by 2018/19 it will completely enter the blockchain 3.0 era.

Blockchain 1.0	•Programmable currency	The main function of blockchain 1.0 is digital currency, which is represented by cryptocurrencies. It has constructed a decentralized system to make digital transactions and has realized various additional services such as fast transactions and cross-border transactions. Its main representative is Bitcoin.
Blockchain 2.0	•Programmable finance	The blockchain 2.0 era is mainly about the use of smart contracts. Its applications are used not only for digital currencies but they are expanded to the whole financial sector.
Blockchain 3.0	•Programmable society	Blockchain 3.0 is about the full application of the blockchain technology. During this era, global resources and not only assets that belong to financial markets, will be decentralized. Its potential applications includes many fields, like: Elections, Medical care, Notary, Public Welfare, Copyright, Cybersecurity, Car Rental, Academic Qualification, etc.

Figure 1 Development of blockchain

Currently, as a consequence of being in the transitional stage, it is already expanding from the initial digital currency to the broader financial field and have gradually extended to many other fields. At the moment, some field of application of the blockchain include: finance, education, medical care, internet of things, logistics supply chain, communications, social welfare, sharing economy, big data, artificial intelligence, voting, auditing, auction, and lottery. Blockchains are thus gradually being applied to all fields of social and economic life with their unique advantages of decentralization, trust-free, traceability, collective maintenance, security, intangible modification, openness, and anonymity. These advantages will be helpful in solving difficulties and pain points in various industries.

Eventually it will save the cost of intermediaries, establish trust relationships, facilitate tracking, ensure the integrity and transparency of information, and protect privacy.

Blockchain Application field	
Financial field	Digital Currency, Credit Information System, Payment and Settlement, Securities, Private Equity, Crowdfunding, etc.
Education field	File management, student credit information, academic record, proof of achievement, industry-university cooperation, etc.
Medical field	Digital medical records, privacy protection, health management, etc.
IoT field	Traceability of goods, anti-counterfeit goods, article certification, network security, network efficiency, network reliability
Logistics supply chain field	Information security of the certificate, privacy of the recipient, and retrospective anti-counterfeiting of the item
Communication field	Social, information systems ensure information security
Social welfare	Increase public welfare transparency and credibility; smart contract technology (targeted donations, donations in batches, conditional donations)
Other fields	Artificial intelligence, P2P credit, auditing, big data, sharing economy, voting, auctions, games, lottery, etc.

Figure 2 Blockchain Application Field

The emergence of blockchain technology has made it possible for digital assets to be authorized on internet and to acquire economic significance thanks to its programs and algorithms.

First of all, the introduction of digital rights will help achieve lower costs, and will make humanity enter the era of digital assets. Majority of the assets in the world will consist of numbers, and their proportion will even exceed that of real objects. Imagine for example that you were photographed while staying in a Bed and Breakfast with your friends in Italy, you could sell the copyright of the image to the photographer through a blockchain transaction. One photo for a one night stay at the B&B, isn't this small trade that can be done in any moment and could happen anywhere in the world particularly convenient and interesting?

Second, digital and physical assets are merged into one. Using the blockchain technology, asymmetric encryption is also used to confirm the data. A user cannot modify the information unless they grasp more than 51% of the computing power of the entire network.

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Data is distribuited to the whole network and time stamped for security reasons. This is the blockchain consensus protocol. In other words, the program itself is a contract.

In addition, humanity will enter the era of smart economy and achieve the 2.0 era with the use of the smart contract mechanism in the financial field. Once the conditions of the private key are fulfilled, the network will execute the program and will thus replace traditional contracts. For example, when we purchase online, we usually use Paypal or Alipay to transfer money. If we use a blockchain instead, assets on the same chain will be automatically redeemed without intermediaries, which follows the idea of "One hand for money, one hand for delivery ". This kind of economic model that does not require a third party not only does not reduce the security and privacy of a transaction, but also improves the time spent on it and increases the number of transactions.

The future research on blockchain will focus more on four main themes: new solutions for the blockchain, application of the blockchain research, the study of the implementation of blockchain technology, and relevant laws and regulations and regulatory issues. As the blockchain technology matures and people become more aware of the blockchain, new solutions will be eventually be found, and when it will become widely used in a variety of fields, the "blockchain+" era will follow. Some experts predict that in the next 10 to 20 years, almost all companies will use blockchain technology to set up companies, sign contracts, register digital assets, manage supply chain, logistics, sales, financing, finance, taxation and other businesses. In order to gain a greater competitive advantage, just as all companies today are using Internet products, companies that do not make good use of blockchain technology are likely to be eliminated no matter how strong they are currently. The Miusu team hopes to help everyone put the blockchain application scene into the ground as quickly as possible and quickly keep pace with the times.

CHAPTER 2: PROJECT OVERVIEW

2.1 Miusu blockchain introduction

Based on the blockchain technology, Miusu uses smart contracts composed of distributed ledgers and distributed computers to make digital currency more transparent and creates a comprehensive ecosystem suitable for many application scenarios.

In December 2013, Vitalik Buterin proposed the Ethereum blockchain platform. In addition to the digital currency transactions based on the built-in "ether" it also applied for the first time a Turing complete programming language in order to write smart contracts. However, Ethereum is currently facing big issues regarding high transaction costs and slow transaction speeds. Therefore, business models that require efficient costs and trading speeds can't view Ethereum as a solution package.

First, transaction costs are very high. Transaction fees have recently become a new issue plaguing blockchain investors. When the price of Ethereum was less than one US dollar two or three years ago, Ethereum's transaction fees were very low and almost negligible. This is also one of the main selling points that supporters of the digital currency often emphasize. However , the price of Ethereum has currently exceeded 600 US dollars, an increase of more than 600 times that also increased transaction fees. In order to quickly complete the transactions, Ethereum fees can even exceed a few dollars at peak times. Therefore, when transaction costs continue to rise, commercial projects that are very sensitive to transaction costs will have to look for alternatives. Otherwise, it will not be sustainable.

Second, the transaction speed is slow. In 2017, the news that most often appeared in people's sights, in addition to the explosion of the price of the Ethereum, was often the congestion of the Ethereum trading network. According to foreign media reports, this is due to the fierce competition in the Ethernet pricing structure of Ethereum and the relatively long delay time. In accordance with today's standards, the Ethereum block's running time is indeed slow, if you offer a high GAS price it takes 2-3 minutes to complete confirmation, for a low GAS price instead it takes more than 10 minutes. Although its speed has been greatly optimized compared to Bitcoin's blockchain, it can't be considered quick. Ethereum is the most successful blockchain 2.0 project on the market and it counts thousands of smart contracts. In June 2018, Vitalik Buterin stated that he will add to Ethereum two additional layers: Sharding and Plasma. These additional layers will bring "child chains" and make you able to do "off chains" transactions, and will be thus helpful in increasing the "main chain" scalability. The blockchain can currently handle 1 million transactions per second, and has the potential to reach 100 million transactions per second with the layer solution, however many experts in this industry are not optimistic about this, because Ethereum has become too consolidated to be able to structurally change. For example, the consensus procedure, the mining system, and the underlying technologies are not so easy to change. So many people think that there will be another blockchain to replace Ethereum. If we compare Ethereum to a computer operating system, we don't know yet what will be the next generation of windows. This is also the main reason why we want to launch the Miusu blockchain, and make a blockchain based on Ethereum. This also mean that programs made for one blockchain is also compatible for the other one, and developers can immediately adapt and work for both platforms.

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Miusu team firmly believes that blockchain companies are currently focused on entering the market. Individuals and firms face a dilemma when they practically try to start a blockchain project: difficult application scenarios, difficulty in finding a development team that understands the technology and last difficulties in implementing blockchain security, especially in Europe, are all serious issues. Miusu hopes to provide a SaaS (software as a service) solutions to help European companies solve these three issues. The Miusu team takes the mission to help build blockchain projects according to their needs and to offer secure blockchain services, without expensive development costs.

Currently, the market lacks qualified personnel, therefore, many commercial projects that wants to innovate their business lack an appropriate level of technical support and cannot do project planning and follow-up. Many companies only have an ambiguous concept of the blockchain technology and an even less understanding on how smart contracts work. This is a bit like the early days of the Internet. Many people felt that the Internet had nothing to do with their industry and did not realize that this new technology would reshape all business models. The same is happening with blockchain and with its power to reshape the existing centralized business models. Imagine for example: a decentralized version of Alipay or Paypal, decentralized betting companies, decentralized crowdfunding platforms, decentralized shared economic platforms, and so on. This innovation will bring a lot of value that will bring to both supply and demand unprecedented profits after completing the decentralization phase. With this vision Miusu will use most of its funds for community development, by providing support for the community from funding to resources, from concept to implementation, and will also help incubate additional blockchain projects. We strive to create a comprehensive ecosystem.

In the future, even though Miusu's transaction costs may increase with the increase in the price of its tokens, this will not be an issue since Miusu's network setup is flexible, transactions on Miusu's blockchain are executed fast with almost negligible fees. Secondly, if Miusu decides to adopt additional layers like Sharding and Plasma in the future, it will be easier than Ethereum to implement and achieve results.. As a consequence, we predict that in the short term Miusu will be able to cover commercial projects that could not be started with Ethereum due to these two transaction issues, but also projects that still need to understand the blockchain technology in general, many of which are the projects that require to execute an high frequency of transactions, for example, financial services such as micropayments. By targeting high-
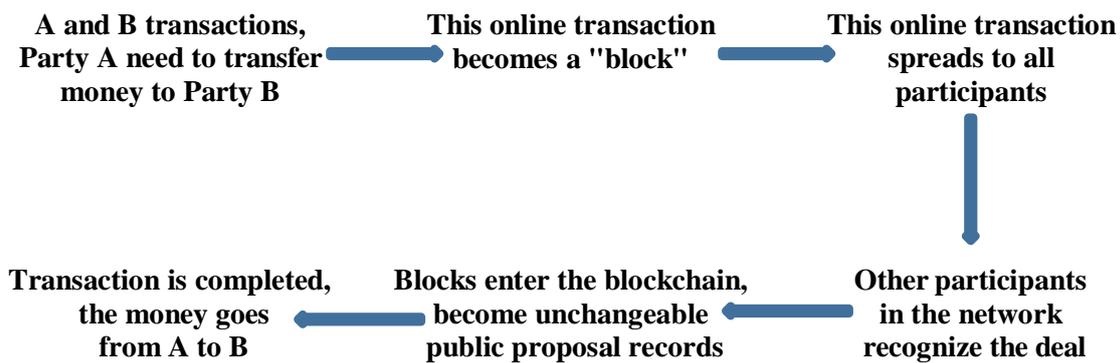
frequency projects Miusu's blockchain token MIU will constitute good value-added in the current market and thus it will represent a good investment.

In addition, Miusu has the resources to develop an excellent community and will cooperate with a number of exchanges so that users will be able to quickly convert the MIU tokens into government-supported currencies, such as euros or US dollars. The Miusu blockchain, like Ethereum, will produce a complete, distributed, non-tampered service community that will be jointly maintained using cryptographic authentication technology and decentralized consensus mechanisms. The digital currency distributed through the blockchain will connect all users in a direct and close way.

First, the user completes the transaction on his own, without intermediaries. Miusu's value added lies in promoting users to reach agreements on their own according to the supply and demand mechanism, in practice the concerned parties will be able to trust each other without a third party's certification and supervision. User information, transaction information, etc. are stored as data at various nodes on the global network through distributed ledger technology. When a consensus is reached, they are time stamped and stored in the whole network. Therefore, these data cannot be tampered with, while still being open and transparent.

Secondly, based on the decentralized nature of the blockchain, the operation of the entire Miusu system is open and transparent, adopting an encrypted digital "Signature" mechanism and using the majority approach. A unified and comprehensive platform enables its users to obtain transparent and useful information about transactions, avoid information fraud, avoid being deceived, and enable various business information to spread rapidly.

Finally, a unified digital currency connects transactions throughout the world. The globalization of transactions is becoming more and more frequent, however the need to use exchange rates hinders the development of transactions between countries. The Miusu issued tokens are circulated among the platforms, and they are not limited by the nationality of the users and the exchange rate of each country. This avoids many issues like the market turmoil of a foreign exchange, as a consequence Miusu platform will attract more users on a global scale and will promote the development of global transactions.

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A and B transactions, Party A need to transfer money to Party B	→	This online transaction becomes a "block"	→	This online transaction spreads to all participants
				↓
Transaction is completed, the money goes from A to B	←	Blocks enter the blockchain, become unchangeable public proposal records	←	Other participants in the network recognize the deal

As a global platform, the blockchain technology behind Miusu allows consumers to trade in the face of different consumer demands and application scenarios without having to pay for excessively high transaction costs. Waiting for long trading hours in other systems will attract potential users to switch to Miusu.

Blockchain will change people's lifestyle, and Miusu will also participate and guide everyone in this revolution. Smart contracts will become a safe, transparent, and convenient mechanism to reduce the risk and the time spent on transactions by making them faster, easier and less complex. Miusu's autonomous contract can provide new opportunities for many application scenarios, allowing people to gain utility and to improve their quality of life. In addition, Miusu can provide "complete transparency" to solve the problem of lack of trust among traders.

Miusu offers transparency to any user. Miusu does not need a third party account book, so it reduces the associated costs, eliminates the dependence from third parties and makes transactions open to everyone, with these three characteristics Miusu will bring a new perspective on the establishment of trust. Second, Miusu combines digital and physical concepts to provide a way to represent any asset that can be tangible or intangible. In this way, proof of ownership can be confirmed at any point in time, while still being compatible with existing trading mechanisms.

In conclusion Miusu records transaction data through the blockchain technology, as such data can't be manipulated and will remain transparent and useful. In addition data can also be anonymously shared and reliably delivered. In addition to this, Miusu also promotes the

circulation of big data, which makes it gain more value added. Blockchain applications like transaction management systems make big data circulate as digital assets, enabling them to be used and applied in a wider range of fields. With the Miusu blockchain, users will be able to break down data barriers and get maximum value from data.

2.2 System Design and Introduction

2.2.1 Smart Contract System

Like Ethereum, Miusu's smart contract programs are a set of commitments converted in digital form, including agreements which concerned parties can execute with our platform. A smart contract is like a blockchain-based vending machine where the buyer puts the coin into the machine and the machine validates the coin and responds (distributes the product). Since its development, smart contracts can be simply summarized as: It is a computer program that runs on a copyable, shared account book, can process information, receive, store, and send value. It is more like a participant in the system who is absolutely credible and trustworthy. He is responsible for keeping your assets on a temporary basis, and it will strictly follow the rules agreed in advance.

The contractual transaction process is as follows:

Smart contract: The features of smart contract automation have enabled Miusu to display outstanding advantages when dealing with digital currency transactions. When the two sides of a transaction reach an agreement on the execution of a contract, the smart contract platform will automatically trigger transactions, settlements, other actions, and record relevant information in the blockchain. In other words the addition of smart contracts has greatly enhanced the efficiency of digital currency transactions through automation, which greatly reduced labor costs. Miusu's smart contract not only exerts its advantages in speed and cost efficiency, but can also avoid the interference of malicious behavior from ordinary digital currency transactions. Miusu writes smart contracts in digital form into the blockchain in order to ensure that the entire process of storage, reading, and execution is transparent and cannot be manipulated. It also adds, a set of state variables are constructed by the consensus algorithm in order to trigger the various commitments that were agreed in advance. The lifecycle

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management functions of smart contracts include creation, invocation, upgrade, and destruction, which can be applied as long as the rules set by the smart contract are followed.
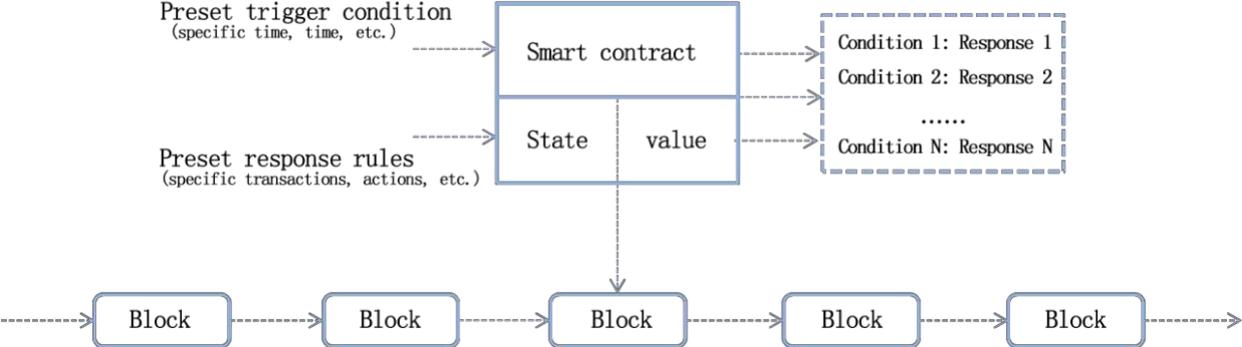

Figure 5 The mechanism of smart contract operation

Smart Contract mixed Services: One or more existing smart contracts can be combined to create new service features. Miusu designed an integrated interface which enables users to access multiple blockchain service functions.

Smart contract testing services: By testing the component functions implemented in the blockchain system, you can ensure that your service functions are complete and correctly implemented. In addition, testing can also check its system security and robustness, ensure interoperability of service function interfaces and test the coverage of service by looking at the nodes in the network.

Smart contract template service: Miusu currently adopts state-of-art and mainstream blockchain services. At present, it supports a compatible virtual machine that can directly deploy and run smart contracts using the "Solidity" programming language. In addition, it actively develops and implements other virtual machines to facilitate rapid development and customization of business logic on the chain. The template service of smart contract can enable users to quickly use our platform. For some common business scenarios, Miusu has in fact pre-developed several directly and immediately usable business contracts.

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2.2.2 Account Model

Miusu's account model is the same as that of Ethereum. Although a "transaction-based model" can easily verify transactions, it cannot quickly query user balances. In order to support more types of industry applications, Miusu adopts an "account-based model" so that transaction balances or business status data can be efficiently queried. Smart contracts are also suited to be built on account-based models, making it easier to deal with complex business models or contracts that uses data with state variables. Miusu's accounts are divided into two types: Externally Owned Account and Contract Account. The external account is used to check the Miusu token balance of an ordinary account. The contract account is used to run and execute smart contracts. The balance in the external account and the state variables in the smart contract are grouped into Miusu's status data. The status reflects the current value of each attribute in the account. When a transaction involving the account occurs, it will cause a change in the account status. The external account and the contract account are represented by the same data structure in Miusu. The accounts contain a Balance, Code, Hash, Nonce and Storage Root attributes. Balance is the Miusu currency balance in the account. Code is the digital version of the contract implemented in the blockchain. Hash is the hash of the contract Code. Nonce is the random number added to the contract code and hashed together with it in order to prevent cyberattacks. Last the Storage Root is the Merkle Patricia root of the contract status data. Miusu's transactions instead include seven attributes: To, Value, Nonce, Gas Price, Gas Limit, Data, and Trading Signature. To is the address of the recipient's account, Value is the amount of money transferred with the token, Nonce like before is a random number, Gas Price is the fee paid for a unit of code when using Miusu's tokens when executing a transaction, and Gas Limit the maximum amount of Gas that is allowed to be consumed, where GAS is intended as the quantity of code that needs to be executed. Data is the information contained in the smart contract. The transaction signature is the sender's ECDSA signature of the transaction.

2.2.3 Account Address Generation

The account is essential for the user to interact with the Miusu blockchain. Accounts represent the identity of the external agents (such as personas, mining nodes, or automated agents). The account uses a public key to encrypt the image to sign the transaction so that the

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Miusu virtual machine can securely verify the transaction sender identity. Each account is defined by a pair of keys, a private key and a public key. The account is indexed by the address, which is derived by taking the last 20 bytes of the public key. Each pair of private keys and address is encoded in a "key file". The key file is a JSON text file that can be opened and viewed with any text editor. The core of the key file is basically the account private key, which is usually encrypted with a password set by the user when creating the account.

The security encryption algorithms involved in Miusu and related definitions are as follows:

Symmetric encryption: Symmetric encryption is the fastest and easiest encryption method. Encryption and decryption use the same secret key. Symmetric encryption usually uses a relatively small key, typically less than 256 bits. The size of the key is important because there is a trade-off between security and efficiency.

Asymmetric encryption: Asymmetric encryption provides a very secure method for encrypting and decrypting data. It uses a pair of keys, a public key and a private key. The private key must be kept safe by the concerned party and cannot be compromised for security reasons, while the public key can be sent to anyone who requests it. Asymmetric encryption uses the public key for encryption, and private key for decryption.

Private key: Privately owned. A 256-bit random number that is kept by the user and is not available to the public. The private key is usually randomly generated by the system and is the only proof of the user's right to use the account and the ownership of the asset in the account. The effective bit length is large enough, so it cannot be compromised and there is no security risk.

Public key: Publicly available. Each private key has a public key that matches it. The ECC (Elliptic curve security) public key can be generated by the private key through a one-way, deterministic algorithm. Currently used algorithms include: secp256r1 (International Standard), secp256k1, and SM2 (China National Standard).

Hash algorithm: Generally, the Hash algorithm refers to the Secure Hash Algorithm (SHA), which is designed by the National Security Agency (NSA) and released by the US National

Institute of Standards and Technology (NIST) as a series of cryptographic hash functions. Includes variants such as SHA-1, SHA-224, SHA-256, SHA-384, and SHA-512. Except for PoW (Proof of work) consensus process, all other Hash algorithms refer to SHA-256.
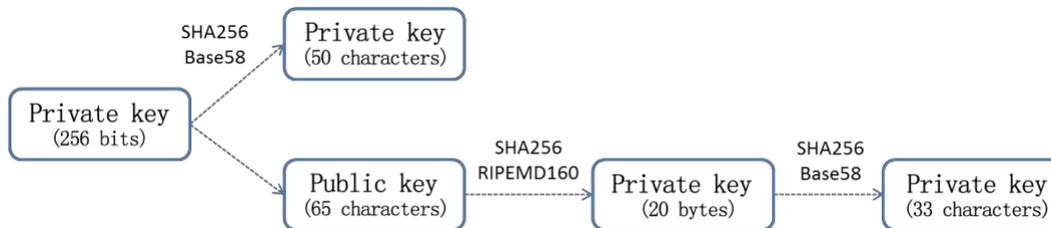

Figure 6 Privacy protection

2.3 Miusu blockchain trading system

Blockchain brings together applications from many fields, including algorithms, mathematics, cryptography, and economic models, combined with peer-to-peer (P2P) network relationships, in order to build mathematical foundations to build a trust free network. A decentralized system that does not need to rely on a single centralized organization to operate from its mathematical principles, to achieve a decentralized, digital currency system that ensures transaction security and traceability.

In practice, a user will use the private key to create a transaction ticket. When a new transaction is generated, it will be broadcasted to all participating nodes in the blockchain network by the user while each node converts the unverified transaction into hash values and collects them into the block. Each block can contain hundreds or thousands of transactions. As soon as a node produces the PoW they will spread it to the network. To be more specific, a node obtains the power to create a new block only through the proof of work mechanism, a consensus process where a node needs to solve a difficult math problem that is difficult to produce but easily verifiable from the whole network. Consensus can be viewed as reached during this verification step. In addition, the node that first produce the PoW order will be rewarded by the blockchain's digital currency. Basically each node competes to calculate the PoW and to obtain the right to execute the transactions. When a node finds a truncation, it broadcasts all time-

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stamped transactions recorded by the block to the entire network and checks it with other nodes of the entire network. Other nodes will confirm whether the transactions contained in this block are valid and the block will not be accepted. Other nodes in the entire network check the correctness of the transaction information and will then compete for the correct block. Once all the nodes have accepted the block, the process is iterated again for the next block of transactions. In particular, the creation time of each block is about 12 seconds, which will be shortened by assuming an increasing computational power of the network.

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CHAPTER 3: DESIGN PRINCIPLES

3.1 Application

Like Ethereum, you can apply Miusu for three main services. The first category is financial applications, providing users with more powerful ways of managing and entering into contracts using their money. This includes sub-currencies, financial derivatives, hedging contracts, savings wallets, wills, and ultimately even some classes of full-scale employment contracts. The second category is semi-financial applications, where money is involved but there is also a heavy non-monetary side to what is being done; a perfect example is self-enforcing bounties for solutions to computational problems. Finally, there are applications such as online voting and decentralized governance that are not financial at all.

Financial derivatives are the most common applications of smart contracts. The main challenging topic regarding the implementations of smart contracts is the need to provide an external price as a reference. The easiest way is through "data feed" contracts, maintained by a specific party designed so that the concerned party has the ability to update the contract as needed, and providing an interface that allows other contracts to send a message to that contract and get back a response that provides the price. Here an example for hedging contracts: 1. Party A agrees with B to sell and buy back 1000 MIU; 2. The transaction is recorded and the value of 1000 MIU in euros "x €" will be calculated according to the data feed. 3. After several days, allow A to buy back "x €" worth of MIU, since exchange rates has changed may not be able to buy back the same numbers of MIUs, in this case the MIUs left will remain with party B. Another important issue is price fluctuations. In order to give more stability, we enable users to create a sub currency that has the authority to issue and withdraw currency units and provide one unit of currency to anyone who gives them offline access to basic assets such as gold, US dollars. For example, USDT tokens issued by Tether Corporation, which are tokens that are anchored in dollars, or EURP tokens that are issued by Joppay and are anchored to the euro. The issuer can also promises to buy back the token by using fiat currency. This mechanism

allows any non-encrypted asset to be "upgraded" into an encrypted asset, with the underlying concept that the issuer is trusted. In this regard investors are betting that the cryptocurrency will appreciate in the future because of its decentralization characteristics. In fact, investors must perform transactions because their assets are kept by third parties, which requires them to trustworthy.

Miusu Blockchain has the same authentication and reputation system as Ethereum, the possibility of building a DAO, and the establishment of applications in various fields such as cloud computing (certified computing environment) and peer-to-peer betting (You can for example gamble on the difference between the hash value and the guess value of the next block), market forecasts, and market decentralization (based on identity and reputation).

3.2 Circulation of digital assets

Digital assets are the core of Miusu, that provides the necessary resources to run the system. Digital assets are the basis for the entire system and enables Miusu to operate its functions. No matter if it is a developer or a miner, they need to use the tokens. Users that want to use Miusu applications to its full potential need digital assets to achieve it. Only with this perspective Miusu will be able to grow exponentially.

3.3 Multi-signature

Regarding Miusu security, the public key is the only way to identify and distinguish a user. In order to guarantee the security of the transaction, each transaction needs to be signed and verified. The signature algorithm uses the Elliptic Curve Digital Signature Algorithm (ECDSA).

Based on the account model, transaction data only contains the sender's ECDSA signature, while it does not contain the sender's public key or the sender's address, because otherwise the ECDSA signature, the raw transaction data, and the elliptic curve parameters can actually be recovered by putting together the sender's public key, and the SHA3 hash. This design can also reduce the number of bytes per transaction and as a consequence also transaction data storage.

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4.1 Miusu Blockchain

The Miusu blockchain is an open source, open to everyone, anyone can send transactions which will be confirmed by using the consensus process. The consensus process determines which block can be added to the blockchain with a clear perspective of the current state. Once the blockchain is released, the program developer will have no way anymore to interfere with a user, in other words the blockchain can protect the users from Miusu same developers. At the same time Miusu is also simple to use, anyone that has a computer meets the access conditions and can therefore be connected to the network, without any kind of limit. There is no access other requirements, although the improvement of the blockchain's capacity and performance could be a big problem, the participation of its users as a community will greatly enhances the transparency and trust of the blockchain.

4.2 Consensus mechanism

4.2.1 PoW Consensus Mechanism

The consensus mechanism used by Bitcoin, the creator of the blockchain technology, is a consensus mechanism based on proof of work, and this mechanism is also widely used in blockchain systems under other environments. In the PoW mechanism, each node participating in the computational competition is called a miner, and the process of solving the random mathematical problem is called mining and a new round of mining will be carried out with each new block that is successfully added. To be more precise, the miner will hash the "block header", which contains information that uniquely identifies the block, meaning that each time a block is mined, the hash will be different. The mathematical problem will be solved if the hash value

generated will be below a certain target value. The target value is related to the degree of difficulty. Each miner's mining process generates a random number, which together with the block header will go into the hash function two times in order to have a unique identification block. The generated result with then be compared with the target value and if it is less than the target value, the mining will be considered successful. Otherwise, another random number will be generated and the iteration will be continued until the hash value is smaller than the target value. Since the double SHA3 is an irreversible hashing function, the process of finding a hash value inferior to the target one requires a huge amount of continuous calculation. The consensus mechanism thus depends on the computational speed and capability of the node and of the network. Although the mining process is time-consuming, the verification process is on the contrary very simple. It is only necessary to re-do a double-SHA3 hash the block header together with the random number given by the miner that solved the problem and then check whether the value is smaller than the target value.

Regarding security, the blockchain can be manipulated only if some miners collect more than 50% of the total network for mining, because otherwise majority of the network will still be able to realize, using the quick and simple verification step of the PoW, that the block has been tampered with. This is an almost impossible to complete, so the PoW consensus mechanism can maintain the transparency and security of the entire network. Satoshi Nakamoto combined the PoW consensus mechanism with an incentive mechanism to promote the joint mining of the entire network. This new concept made us achieved true decentralization, however, it is costly to implement distributed systems through computational competition. Take Bitcoin as an example, in 2016 its entire network has more computing power than the world's top 500 supercomputers. Therefore, Miusu has decided to give the community the possibility to vote in a later stage on whether they want to switch from the existing PoW consensus mechanism to the Proof of Stake (PoS) consensus mechanism.

4.3 Decentralized Wallet

Miusu has an online version of the decentralized wallet, and a mobile client wallet, which is available in IOS and Android versions. In addition to sending, receiving, address book, digital asset information display, and query transaction ID functions, Miusu's wallet will be developed to also enable users to use its functions for application scenarios. Clients will be
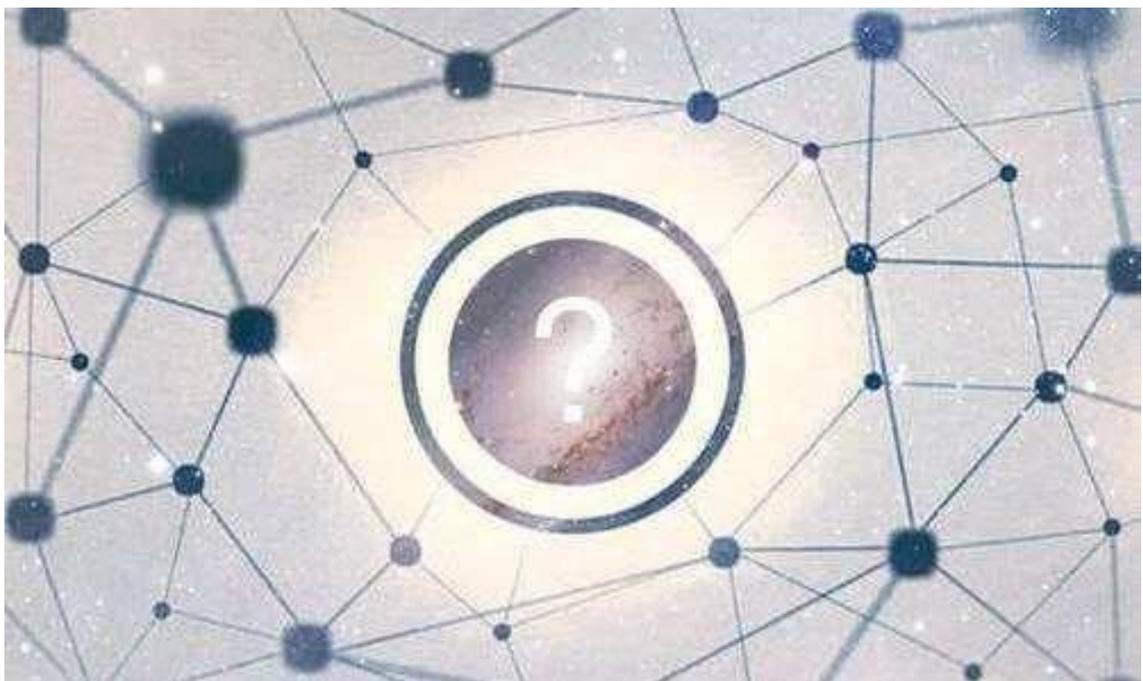
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connected to third-party decentralized gaming and betting applications, embedded blockchain games, blockchain finance, and crowdfunding ICO services.

4.3.1 Swap function

The mobile wallet also works as a mini exchange and offers for this purpose a swap function. This function allows Miusu's customers to swap its tokens with other cryptocurrencies such as BTC, ETH, etc.

4.3.2 Ico Engine

Last, the mobile wallet also works as Ico Engine and will help its customers launch any ICO (Initial Coin Offering) through its application (IOS and Android). An ICO is a new way for startups to raise funds for their projects by providing participants an amount of tokens instead of the traditional shares. By offering this service Miusu will be able to develop as a whole and will also be able to grow a bigger customer base. A successful firm in this regard is represented by the Italian firm Eidoo, which aims at simplifying the blockchain-to-human interaction, by maintaining a special focus on the user experience and making the complexity of the crypto world to be more understandable.

CHAPTER 5: MIUSU ECONOMIC PROSPECT AND PLAN

5.1 Uses and Value of the Miusu's token

Miusu is a blockchain, in which all transactions data are recorded in its blocks and aims to achieve fairness, openness and transparency of the entire trading system. In the past few years, the development of digital currency represented by Bitcoin and Ethereum were carefully analyzed to confirm the value of the blockchain technology and of the cryptocurrencies. We firmly believe that the economic use of Miusu blockchain as a currency medium can be achieved.

The use and value of Miusu's token:

1. Scarcity: Since Miusu can introduce various applications, its user volume will been the order of one million or more. The distribution of tokens will be carried out rapidly, and as the difficulty of mining increases, the initial primary channels to give tokens will be reduced, thus prompting users to trade through the secondary market.

2. Liquidity: The introduction of millions of users and the introduction of various mainstream consumption scenarios (finance, gambling, games, e-commerce, advertising, e-books, rewards, etc.) will greatly increase the circulation of tokens, and together with the community it will create an era of "blockchain +". Miusu will also connects to important domestic of foreign exchanges to further improve its liquidity.

3. Appreciation of system development: The market value of digital currency will be directly proportional to the development of its Miusu system. After various applications will be implemented in Miusu, the Market value of its tokens will continue to increase.

In this regard, Miusu will use most of the funds raised for community development, support for community projects, and will provide support for community projects, from funding to resources, from concept to technology in a comprehensive and efficient ecosystem.

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5.2 Release Plan

5.2.1 Release Rules

MIU – Miusu Coin Distribution and Budget Allocation

MIU is a self-generated token based on the Miusu blockchain and is the only basic payment medium of the blockchain, used as a community reward, settlement, transaction, and blockchain smart contract performance. MIU's digital tokens were issued in 10 billion pieces. In the first stage, MIU created one block at a time. After an average of 12 seconds, a block of one token was issued. Three MIU tokens were given to miners, about 7.88 million tokens will be added each year.

1) Distribution and budget allocation of MIU Miusu tokens:

- 5% of tokens will be reserved for early private equity investors
- 10% tokens will be reserved for private equity investors
- 20% tokens will be used for crowdfunding ICO
- 15% tokens will be reserved for Advisors
- 25% tokens will be reserved for founding team members
- 25% of the tokens will be used by the foundation to support the development of projects in the community and on the chain. If there are many projects in the later period, the public voting system using the MIU tokens can be used to determine the projects to be supported.

2) Use of raised funds:

- 20% will be used for product development
- 35% will be used for operations
- 10% will be used for legal affairs
- 20% will be used for marketing
- 15% will be used as a reserve

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Team lock-in period: The team holds 25% of MIU tokens, of which 20% is used for incentives of existing team members, and 5% is used as an incentive for the introduction of new team members in the later stages to ensure team development and operational strength. The team holds the MIU token for a lock-up period of three years and it will unlock once every 6 months from the fourth year. The amount of the single unlocked MIU token does not exceed 30% of the total amount of the team's available MIU token. MIU's token private placement is divided into two rounds: The private placement is only for specific institutions or qualified investors, and the currency used to receiving it is Ethereum (ETH), which will be used to exchange the equal value of the MIU.

- Cornerstone: One ETH exchange 1.000.000 Miu
- Private Place: One ETH exchange 500.000 Miu
- ICO: exchange for one ETH 250.000 Miu

Locking mechanism of MIU tokens: During the period of private placement, the corresponding MIU tokens are locked by smart contract locks, and the lock time is 12 months.

Currently, the Miusu blockchain has been completed and an "online wallet" and a "mobile App wallet" are also available to be used. After the funds are raised, the platform will be oriented toward users to develop applications, in order to give value-added. We firmly believe that at the moment entering the market is the main focus of a blockchain compan. Therefore, part of the funds raised will be used for the construction, operation and promotion of some high-quality projects that will be incubated on Miusu platform. Miusu will also continue to carry out in-depth development of the blockchain technology and will adapt the oncoming "blockchain+" model in various fields. In the first year, we will focus our efforts for the European market, mainly by developing DAPPs in the financial sector and in the gaming sector.

Miusu Founding Team:

Hu Yunjian   CEO

Miusu Founder

- Graduated from the Turin University of Economics in Italy,
- Known as " Web celebrity chubby" Jerry
- Founded Huayi Group when he was 18
- In 2012 founded e-commerce group (Ju Fu Bao's predecessor)
- He is currently the CEO of Poly Group Co., Ltd.

Aurelio Mustacciuoli   CFO

Miusu Co-Founder

- Graduated from Bocconi University in Milan
- The current CEO of WifPay srl
- Mobilmat co-founder
- 20 years' experience in banking and payment management
- Once served as general manager of IW Bank and CFO of Banca IMI.

Miusu Co-Founder

- 8 years of system platform, e-commerce operating experience
- The founder of GuaGua is Home 020

CHAPTER 8

DISCLAIMER

This white paper is meant for information purposes only and does not constitute investment advice, investment intentions, or teaching investment. This white paper does not constitute nor is it interpreted as an invitation to buy or sell, any form of securities, or any form of contract or commitment.

CHAPTER 9: RISK WARNING

The net value of this digital asset will fluctuate due to market fluctuations and other factors, therefore the investor must bear the corresponding risks. The risks involved in the collection of this digital asset project include systemic risks arising from the impact of political, economic, social and other environmental factors on the digital asset market.

The participation of an investor in this project is not the same as depositing funds as contrary to deposits in banks or other deposit-taking financial institutions, it does not guarantee profitability or guarantee minimum returns. Investment involves risks. Investors should carefully read this white paper when they raise this project.

Remind this principle, after making a investment decision, the risk of the project's operating status and changes in the net value of the project will be borne by the investor.

CHAPTER 10: GLOSSARY

1. Miusu is a blockchain based platform and provides a decentralized virtual machine that can execute Turing's complete programming language.

2. Miusu is composed of smart contract layer, incentive layer, consensus layer, network layer, and data layer. The data layer contains the most basic data structure and account encryption algorithm in Miusu, which is also Miusu's basic components.

3. The network layer mainly includes the data transmission check mechanism of each node in Miusu;

4. In the consensus level, Miusu adopts a consensus mechanism based on proof of work;

5. The incentive layer includes the incentive mechanism, which is mainly used to incentivize the node to independently mine and maintain the Miusu operations.

6. The data layer, network layer, consensus layer, and stimulus layer also form the basic blockchain structure. The smart contract layer can be said to be unique to Miusu. The smart contract layer encapsulates a virtual machine that can execute Turing's complete programming language. It can be decentralized by writing a scripting language as a smart contract to deploy in Miusu blockchain.

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