A Decentralized Price-Stable Cryptocurrency Management System

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Summary

As the White Paper of Alchemint came out, it was a time when the capital markets were full of devastation in the world. Bitcoin won a 60% discount during the Mid-February, crypto-currency plummeted across the board, the "arithmetic formula" of the US stock market plummeted deeply and the Chinese A shares also suffered heavy losses. After years of curiosity, questioning and even opposition to new technologies and new ideas, the technological revolution triggered by the blockchain has been quietly rewriting the global economic algorithms.

It is very quiet for the evolution of human civilization before every transition. This time is no exception. The Alchemint team is fortunate enough to be with peers and supporters around the world to share our understanding of blockchain technology, exploration of "stable price" in crypto-currencies, and attempts to link the crypto economy to the real.

Just as we firmly believe that mankind is looking forward to find more advanced civilizations, freedom and beauty.

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Preface

Opportunities and Challenges of Encrypted Digital Currency

1. Preface: Opportunities and Challenges of Cryptocurrency

1.1 Introduction of cryptocurrency and stablecoin

Bitcoin was still the king in cryptocurrency world in 2017, which derived from the open source operating system released by Satoshi Nakamoto in its academic article 'Bitcoins: a point-to-point electronic cash system'. It rushed to the highest point of $ 19110.24 in less than 9 years, having 10 million fold increase from its beginning. Bitcoin not only has the function of payment interacting with the real world, but also has tremendous revolutionary value in the market through its securer transfer function arose from its own cryptography structure as a kind of cryptocurrency.

As a team formed by entrepreneurs who study finance and advocate Austrian School, the core founders has some studies in the currency market. We felt surprised and shocked when we recognized the appearance of Bitcoin at the first time, then transformed to calm down and think about the evolution and development of currencies during the new economic era. In fact, the success of Bitcoin is well-grounded as its applied block chain and cryptography technologies reflect the properties of currency and even naturalize the weaknesses of legal tender. Its success is supported by the economic theories which suggests to issue competitive currencies in order to curb inflation purposed by Hayek's literature 'The Non-State Currency'. Furthermore, it involves people's continuous exploration and application towards electronic payment, cryptography and computer algorithms since the advancement of internet technologies appeared in the last decades.

We are excited to witness that some great companies including Google, Apple, Alibaba and Tencent triggered by the internet technologies in the end of the last century has changed the lifestyle of people. We also foresee that the block chain technology will reconstruct the value system in the world, change the organizational structure of society and influence the productive approaches through the innovative production tools. Currently, as the block chain has evolved into 3.0 era, it develops from the conceptual framework of the basic chain to a wide range of applications in the

financial and non-financial fields. As a result, The Internet of Value predicted by KK in his article 'Out of Control' has emerged. The market value of all digital currencies has exceeded the number of trillions and that of the most well-known digital currencies including Bitcoin and Litecoin reach one hundred billion. In addition, the value of NEO tends to reach the level of billions as well. BTC, ETH and NEO have become the mainstream currencies in the cryptocurrency world gradually.

Figure 1: Bitcoin Price

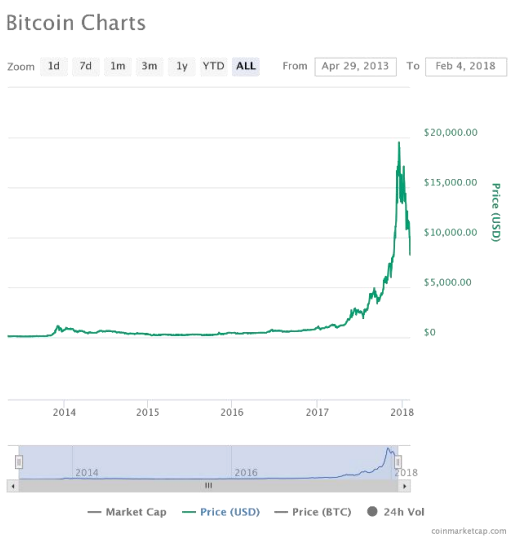

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Figure 2: Ethereum Price

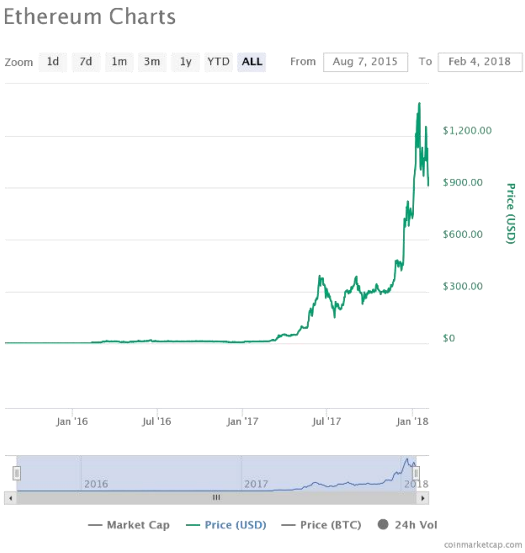

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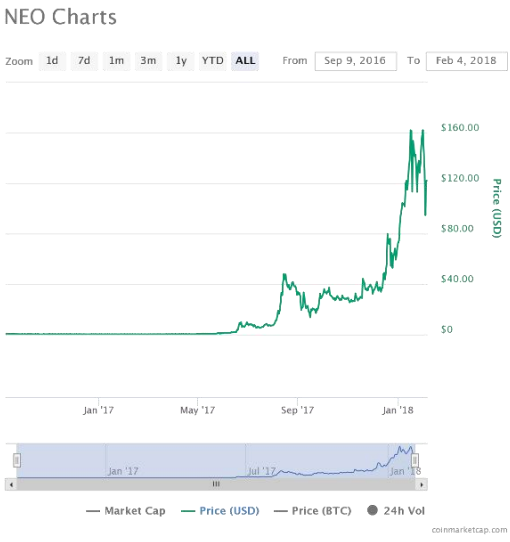
Figure 3: NEO Price



Chart

However, as there is no perfect thing in the world, when cryptocurrencies become the alternatives of investment and usage for people, they lead to new and huge emerging gaps for financial and commercial services. For example, the financial services such as credit and asset securitization on the block chain lack stable medium of exchange. A question is proposed that how to realize the payment and the value transfer in the business cases when the price of cryptocurrency fluctuates dramatically.

Stablecoin emerges at the right moment. Alchemint team has found that people pursue a variety of characteristics which equipped by Stablecoin during our communication with a huge amount of general investors and suppliers of commercial services last year, even they have not used the term of 'Stablecoin'.

'I plan to build a website that supports to shop by using digital currencies and I has been upset about unstable currencies for a long time. Thus, we always desire that the public chain can generate a kind of currency that anchoring legal currency. '

——Luna

'If the price is not so volatile, I think our travel, entertainment services can use digital currency.'

——Mr.Xie

We have received hundreds of questions from users and investors on our twitter account when it opens. We have to say there is no more exciting thing than an entrepreneurial project was urged by users. Thus, we do not have any reason that not to do better.

As a financial entrepreneur, who have a firm belief in the future of the block chain industry, Alchemint hopes to provide a system for all users that creates a stablecoin based on digital asset reserves (eg, NEO, ETH, etc.), as if it were a stable anchor to fulfill the function of magnifying, balancing, transferring and exchanging value between the digital currency and the legal currency world. The system will serve all demands of potential users for stablecoin in the world, including investors in digital currencies, consumers holding digital currencies who want to buy goods and services, and providers of digital financial services, etc.

In this white paper, the writers of Alchemint team make efforts to avoid complicate terms and

uncommon vocabularies, and we will try to explain Alchemint's philosophy, product features, our technology development and community development plan in simple and plain language. Alchemint believes that we have transformed in an era of globalization and unboundedness, an era that focuses on intangible things, such as information, ideas and relationships, which are closely linked with each other. We look forward to inviting more investors, collaborators and users who understand and support the concept of Alchemint to build a community ecology.

Block chain is a new industry, we recognize the technology of the whole industry is not mature enough, and Alchemint's technology is not the greatest in the world. However, we have a united and pragmatic team that has a common philosophy and works in harmony. With a good starting point for technology, the rest is to improve continuously in the progress of development. We also hope Alchemint will contribute some new innovations and breakthroughs to the development of the community, the digital currency service and the block chain technology in practice.

1.2 Why does price-stable cryptocurrency matter

Cryptocurrency is a kind of currency that has never been emerged in history of human being before. The advent of Bitcoin has led to several charming characteristics of currency in the following aspects:

- **Security**

Bitcoin has truly realized that the private property cannot be violated by everyone technologically. If you have a private key, you possess the absolute ownership of the account. As long as your private key is not revealed, no one can take away your Bitcoin and no one can seize or block your Bitcoin as well.

- **Hold Costs**

Whether you have 1 Bitcoin or 10,000 Bitcoins, the costs are the same and very low, you only have to think of ways to keep your private key safe.

- **Payment costs**

Bitcoin is a point-to-point cash system based on distributed ledger technology of block chain. Paying someone Bitcoin is as easy as sending an e-mail that does not rely on third parties. You can pay bitcoin anywhere in the world with the same speed and low cost.

- **Others**

On other hands, Bitcoin has great advantages due to its characteristics that one currency should have, such as stability and can be arbitrarily partitioned.

Because of these reasons, enthusiasts not only hope Bitcoin can execute more currency functions, but also hope it can become an approach of payment into the commercial circulation. For example, enthusiasts will pay Bitcoin to buy coffee in their cafes, and we also see some commercial agencies are exploring and promoting the usage of Bitcoin as an approach of payment, such as Japan's Bitflyer, Coincheck represented by the exchange model and Bitpay represented by the middleman model in the United States.

However, the phenomenon of cafes can only be viewed as the attempts by some of the enthusiasts as the transaction volume is almost negligible, so it cannot be promoted as a business mode in large scale. In addition, actually, the exchange mode and the middleman mode only bear the risk of price fluctuations through a centralized institution. Although some measures can be taken to stabilize the fluctuations, once the scale of the transaction is

enlarged, the institution will be exposed under enormous risks. At the same time, the merchants receive the converted legal currency instead of Bitcoin. For the user, he will see a constantly changing price of the product, which is a very bad experience. We can predict that this mode cannot be promoted effectively in a large scale.

The reason for this is mainly due to the issuance mechanism of Bitcoin and the rule of constant total amount, which leads to a huge fluctuation in the purchasing power of general goods and services. The modern economy is far more complicate than tribal economy or village economy at early time. For a large economy, if we choose a stuff which has constant total amount as a currency, it will inevitably cause a deflationary spiral in the economy that everyone begins to hoard money. The more valuable the money is, the lower the price of output is. The result of the declining output would be a drop in wages and demand of consumption, which results in a further decline in the price of output, and eventually it will lead to a collapse of the economy. Therefore, even though Bitcoin has excellent characteristics, it is not suitable for using as a circulated currency in major economies. In fact, the legal tender could support economies effectively because it is endorsed by national credit and can be used to adjust market failure through macro monetary policies.

However, since the total amount of Bitcoin is constant, it becomes scarcer than legal tender, which has increasing supply. Thus, it becomes a popular commodity as an investment, which results in the unstable price of Bitcoin compared with legal tender. Moreover, the volatile price seems to be a common feature of all cryptocurrencies.

Any currency should have three characteristics: unit of account, medium of exchange and store of value. We believe that only the currency which has stable price and has above three features can be accepted widely. In term of a currency that has huge volatile price, it is almost impossible to have any function in circulation, except as an investment or a subject of speculation. It can be assumed that as long as the volatility of price cannot be solved, cryptocurrency will not be able to be used in daily payments and commercial applications in large scale.

1.3 Price-stable cryptocurrency in Commercial Application

Stablecoin is the basic requirement for the most decentralized applications, which enables the market of Alchemint have infinite potential. As a stablecoin factory, Alchemint can be used as a decentralized leveraged trading platform. In addition, in the ecological environment that built by Alchemint, the potential customers that can use our services immediately include:

- **Digital Asset Exchange**

In the process of the transaction, the bourse needs a kind of price-stable asset as a hedging tool in bearish market. Bitcoin is clearly not suitable as the tool in digital asset exchanges that only provide digital currency services. The stablecoin, which can become the basic asset, could provide trading pairs and measure a price to other digital asset such as Bitcoin, Litecoin, Ethereum.

- **Financial services based on block chain**

Due to the huge volatility of price, currently digital currency is not suitable to be applied in even the most basic financial contracts. You cannot imagine that you borrowed a Bitcoin one year ago ($8,000 a Bitcoin), and when you need to pay back 1.2 Bitcoin after the contractual agreement, the price of Bitcoin has risen to $ 20,000, which is a huge loss to who borrows it. While the block chain as the value of internet is most closely related with finance, there is limited applications in practice. We believe that financial services based on block chain will be developed with the popularization of digital currency that has stable prices.

- **Applicable Service Provider**

Applicable service provider refers to enterprises that offer a variety of applicable payment based on block chain technology to organizations and users. They provide payment access of digital wallet for enterprises such as Uber and Amazons. Tourism, retail and property management companies help digital currency holders to pay for their consumption and life services conveniently. In gaming industry, in terms of predictions of betting, people do not want to bet on a cryptocurrency that does not have stable price, especially for those who make a bet on price fluctuation in future as gambling cannot be kept in long-term. Entertainment providers also do not want to choose volatile digital currency to bet. Therefore, cryptocurrency that has stable price is a natural alternative to users that predict market and gaming.

- **Circulating currencies in unstable countries**

For some Third World countries, the local currency is facing very serious inflation due to the instability of the regime. For example, Venezuela's inflation rate surpassed 700% in 2017. Local residents use U.S. dollars as their circulating currency in these countries, but the usage of U.S. dollars as an approach of payment is also very inconvenient due to the lack of financial services. The digital currency that can be anchored to the price of U.S. dollars would enable local residents to complete their payments as long as they have an access to internet and a mobile phone.

- **ICO project owner and investor**

Stablecoin can be as a token instead of other tokens such as ETH to raise funds for projects in order to effectively reduce the risk of price fluctuations for the project sponsors and investors.

- **Alchemint Foundation**

According to the incremental needs of ecological development, it can provide and support block chain services that the market need for more technology companies, such as development of digital wallet, payment services, private key management, internal exchange, smart contract template tools and so on.

- **End User**

All the general users who need to use the stablecoin can enjoy the convenience of stablecoin in the digital financial ecosystem

1.4 The attempt for price–stable cryptocurrency solution

Since stablecoin are so important, we can see some solutions that have emerged in the industry with three modes.

■ Centralized collateralization mode (IOU mode)

Tether, which is a company that issues USDT, a cryptocurrency that issuing one USDT through absorbing one dollar reserve, uses this mode. USDT has value and the price is pegged to $ 1, because it is backed by dollar reserves of Tether.

However, the shortcomings of this mode are obvious:

- Tether may collapse or escape with money as a company.
- Tether's U.S. dollar reserves are not transparent. Tether can issue excess USDT arbitrarily as a centralized company.
- Tether's account for US dollar reserves may be blocked by the bank or confiscated by the government.

■ Seigniorage Shares mode

Basecoin is a stable cryptocurrency of 'coinage privilege model' based on the theory of 'Quantity Theory of Money'. It enables the adjustment of the supply of the stablecoin through "Base Bonds" and "Base Shares" in order to match the value of Basecoin with the anchored target.

Like other central banks in the world, Basecoin relies on the same economic principle --- quantity theory of money to stable prices. Central banks use tools such as 'open market operations' and 'reserve policies' to implement their policies:

- Tightening the supply of currency: If the central bank views a drop in the price of a currency, it can raise the price of currency by tightening its supply.
- Expanding the supply of currency: If the central bank views a rise in the price of the currency, it can lower the price of the currency by expanding the money supply.

Expansion or tightening policies can have an effect on economy, the reason is that the quantity theory of money argues that the long-run price is consistent with the total money supply in circulation in an economy. In other words:

Total demand = currency price * the amount of currency in circulation

And coinage privilege mode also has some problems:

- There is no corresponding collateral behind the stablecoin issued by Basecoin so it cannot establish effective confidence and consensus towards price
- Basecoin adopts the independent currency issuing mechanism and has natural competition with legal tender endorsed by national credit. However, it cannot have the value of legal tender due to its non-compulsory, compensatory nature and lack of collateral as support.
- The 'quantity theory of money' which Basecoin is based on has its own problems: on one hand, the theory denies the value of money, on the other hand, it neglects the regulatory role of stored currency to adjust the amount of money in the circulation. In the case of Basecoin, the cost of manufacturing Basecoin cannot be denied, and also we cannot overlook the effect of adjustment from Basecoin saver to the amount of Basecoin in the circulation.

Decentralize collateralization mode

The principle of this mode is to collateralize digital assets on the smart contracts of block chain, so as to issue digital currencies that anchored the price of the legal tender. Bitshares adopted this approach, Alchemint also adopted this approach. Under this mode, every stable digital currency that is issued is backed by collateralizing the corresponding digital assets, and the collateral is transparent and cannot be appropriated or blocked. Next we will elaborate how Alchemint does it.

PART2

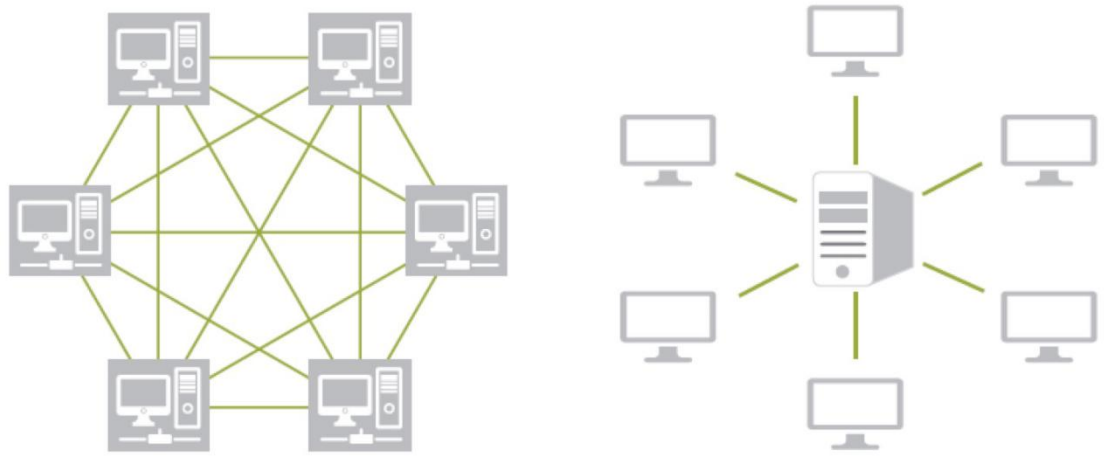
The Alchemint Stable Digital Currency System

2. The Alchemint Stable Digital Currency System

2.1 What is Block Chain Technology

Many readers may still unfamiliar with the concept of blockchain. We would like to share the technical principles of blockchain before we introduce the Alchemint. It can be explained from three levels.

Figure 4: Centralized Network and Distributed Network

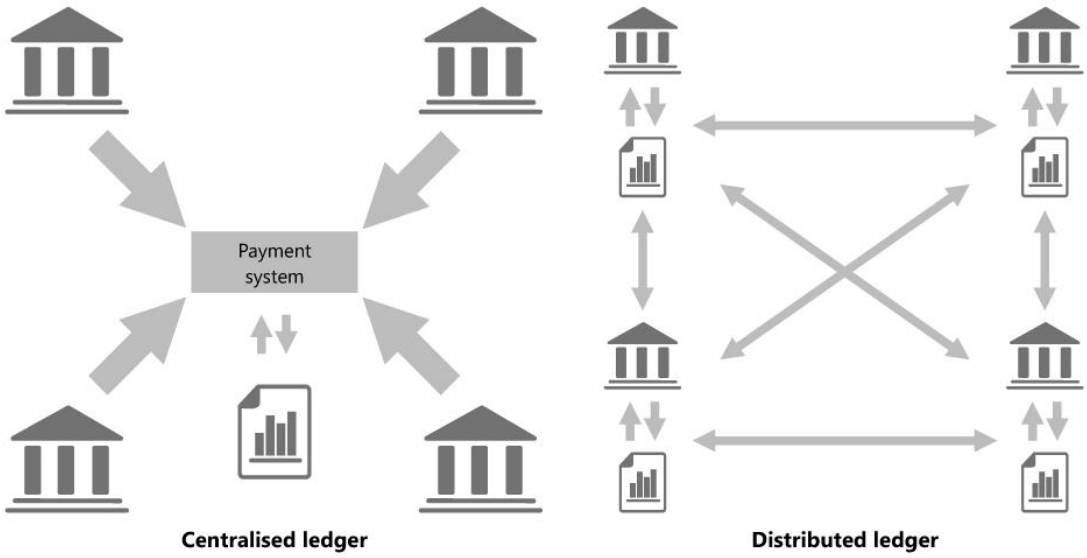


The first level is the distributed network which mainly resolves the problem of spot-to-spot communication. This technic shifted the network from centralized data center to decentralized distributed nodes. Each host in this network is equal. The data and status between hosts are consistent by the application of consensus mechanism. The resilience of the whole network is greatly enhanced. None individuals or groups are able to take control of it. This would open and transparent network protocol merge all the participants together.

The second level is the distributed ledger which is a ledger system of cryptography based on distributed network. It brings spot-to-spot trading on the basis of spot-to-spot communication. The distributed ledger is a database that shared, copied and synchronized by every node and update its records with restraint and negotiation under the consensus

principle. Its strongest feature is that every participant edits the same ledger and no individual needs permission from any organization or person to open an account on it and then to take absolute control of it by private keys. One can transfer valued products through it without any intermedia. The crypto digital currency based on distributed ledger has its extraordinary feature.

Figure 5: Centralized ledger and distributed ledger



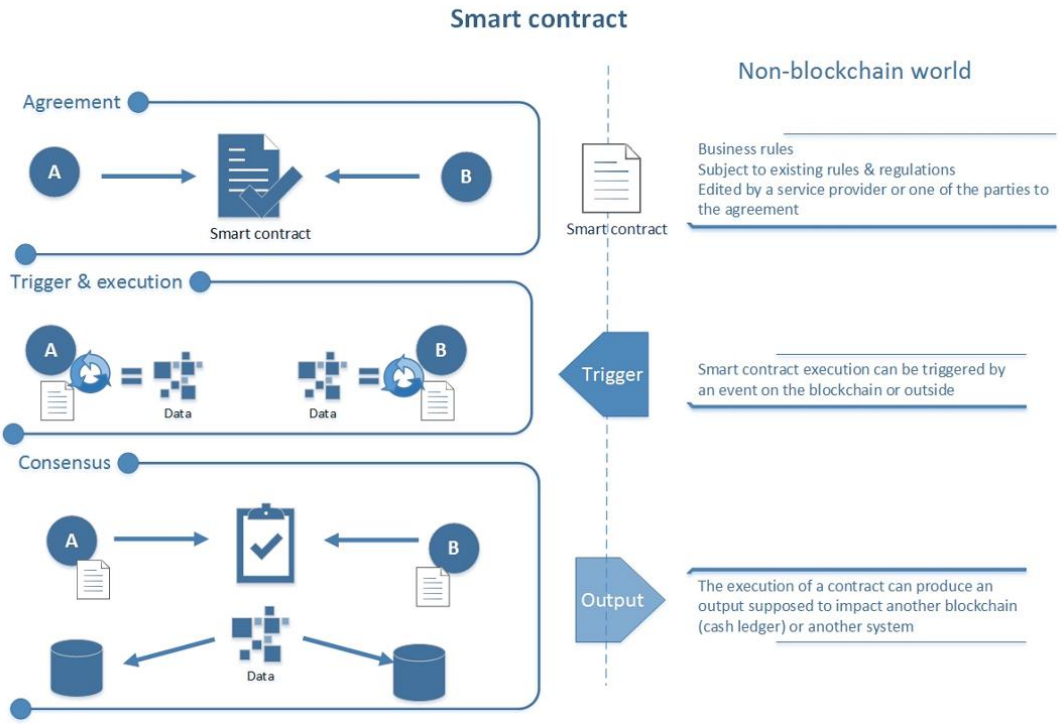
The third level is blockchain economy or blockchain ecosystem which added incentive mechanism and governance mechanism based on the distributed ledger. The Bitcoin blockchain is a typical representative. Global spot-to-spot trading is happening every second on the Bitcoin blockchain. This network has no traditional shareholders, board of directors, management, employees and offices. But it has been steadily operated for 8 years without a single account error or crash of the system. A new set of governance mechanism is established with the combination of consensus plugin which is based on the Game theory. The system releases the Bitcoin automatically and to incent and motivate the miners to take part in the bookkeeping work for the sake of the stability of the whole system.

2.2 Smart Contracts

Bitcoin, as the first generation of blockchain application, can only implement some simple commercial logic like transfer of account. Ethereum is widely recognized as the second generation of blockchain application. One of the most significant features is smart contracts. In brief, smart contracts are the digital version of traditional contracts and computer programs that automatically apply the treaty of contracts. The programs are stored in blockchain database and will apply when certain conditions are satisfied. Blockchain technology brings us a decentralized, tamper-resistant and highly reliable system. "Tamper-resistant" means we do not have to worry about the modification of contracts. "Highly reliable" ensures the contracts will not be applied when certain conditions are not satisfied. "Decentralized" offers network backup and help to support the post audit. With this system, we do not have to trust other parties but trust the blockchain system can accomplish the rest.

Smart contracts turn the digital currencies into smart currencies. The complicated business logic can be handled besides the transfer of account. For instance, some financial business like mortgage and liquidation which only relied on traditional contracts before can be processed by smart contracts right now. We can establish an intelligent, trustable and transparent stablecoin system based on digital assets reserve. We will introduce in detail on how to realize this objective by smart contracts in the following chapters.

Figure 6: Smart contracts



2.3 The Overall Structure of Alchemint

Alchemint is a decentralized price-stable cryptocurrency management system runs on the blockchain of NEO. It creates high performance application-level digital currency through distributed ledger technology. A series of risk control measures like the mortgage of digital assets, the release of stable digital currencies, the management of the market value of collateral are implemented by smart contracts to establish a resilient, open, transparent and stablecoin issuance system. Alchemint is not controlled by any individuals or organizations. It does not need audit companies or regular publication of reserved assets. Everyone is able to check real time market value of collateral, the circulation of stable currencies and the overall condition of the system on the public blockchain. There is no need to worry about the runaway, bankruptcy or account suspension of Alchemint for the smart contracts guarantee all the collateral will not be embezzled. The holders of stablecoin also do not have to worry about the fluctuating of the market value of collateral. Alchemint has a complete set of risk control measures to manage the collateral's market value so that the fluctuating will not trigger crisis of the whole system.

Anyone can issue stablecoin by mortgaging value-fluctuated NEO assets (or any digital assets approved by Alchemint Governance Committee) like sdusd with the exchange rate of 1 on USD (the currency can be euro or RMB). Since the sdusd is created, it can be used to pay like any other cryptocurrency, remit, store of value or top up in digital assets exchange to purchase other fundamental currencies of digital assets.

Figure 7: Alchemint industry structure

2.4 Important Technical Features of Alchemint system

2.4.1 Stablecoin sdusd

Sdusd is a cryptocurrency issued on the platform of Alchemint with the mortgage of neo and other digital assets. The price is relatively stable with the US dollars. Price is supported and stabilized by Smart Assets Reserve (SAR), commission lever and motivator from internal and external through Alchemint. We are going to introduce the price-stable mechanism of sdusd in the next chapter.

2.4.2 Smart Assets Reserve

SAR is the most important technical component in Alchemint. It is a smart contract based on NeoContract. With the support of SAR, we are able to guarantee the security, transparency and auditable of all mortgaged digital assets. Efficient management operation can be done when the market value of the mortgage fluctuates.

The whole process can be described as below:

1) User creates a SAR and send neo into the SAR for mortgage. SAR will evaluate the value of neo and with its mortgage rate to create certain amount of sdusd back to the user's account. e.g. one sent 10 neo into the SAR and the market price for 1 neo is 100 USD. The mortgage rate is 200%. Then SAR will create 500 sdusd.
2) If the user wants to redeem those 10 neo, he has to give 500 sdusd back to SAR and pay certain commission (pay via SDT, SDT will be introduced in detail later). No one is able to embezzle the mortgaged neo before the redemption.
3) If the value of neo break the liquidation level (e.g. 150% as liquidation rate, when the value of 10 neo fall to 750 US dollars), the mortgager must take additional investment in order to make the value of collateral above the liquidation level. If the mortgager takes no action, everyone has the authority to liquidate this SAR in force and ask for extra bonus. The mortgager will suffer an extra loss for negative act.

Take a simple case as an example. The bank will release loan to mortgager for taking his or her house as collateral. The mortgager will be asked to pay off the loan when the value of the house falls. Otherwise the house will be sold at auction. The mortgager can only take the rest part of the money after the loan is paid off.

We will further introduce this mechanism from the perspective of accounts in blockchain and private wallet. A kind reminder that SAR does not exist in private wallet but the blockchain. The private wallet is merely a display of account data in blockchain and an intermedia of sending instructions.

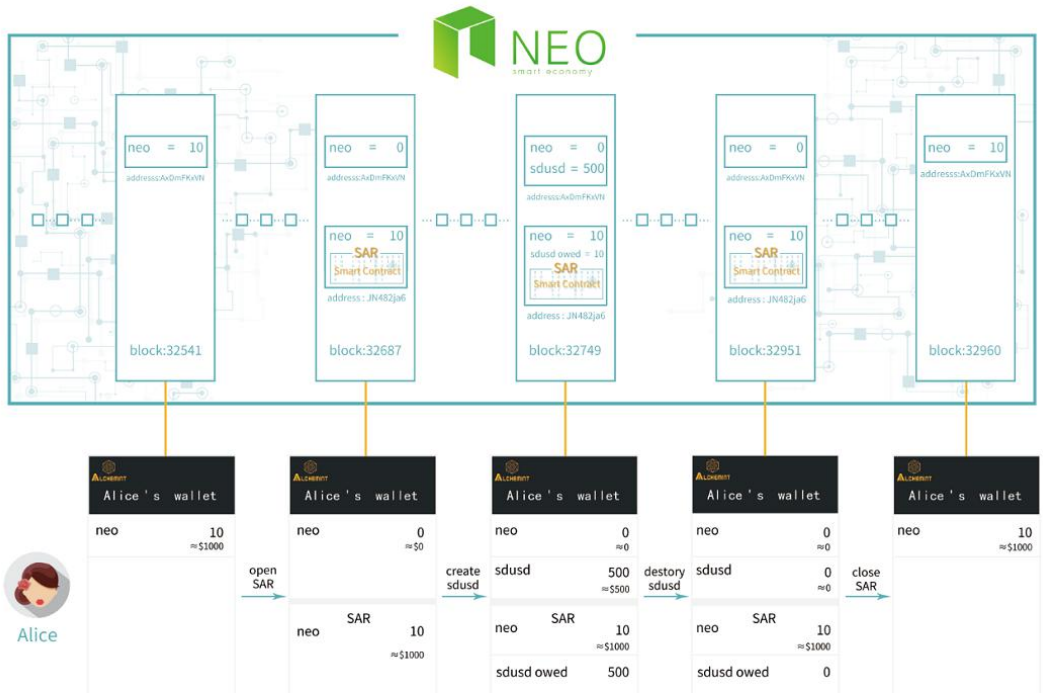
— Case —

Alice can easily create her own SAR through our website control panel or mobile wallet application to mortgage her neo assets in SAR and borrow sdusd in the limit of mortgage rate set by system.

If the price of neo is set as $100 and the mortgage rate is 200%, Alice mortgaged 10 neo before she can create sdusd with the number between 1 to 500.

The price setting mechanism will be introduced in detail in the following chapters. With the sdusd, Alice can top up in the exchange to purchase neo or btc and other digital asset. She can also pay with it or sell it to acceptors for US dollars. Alice only needs to return all the sdusd when she wants to redeem those 10 neo.

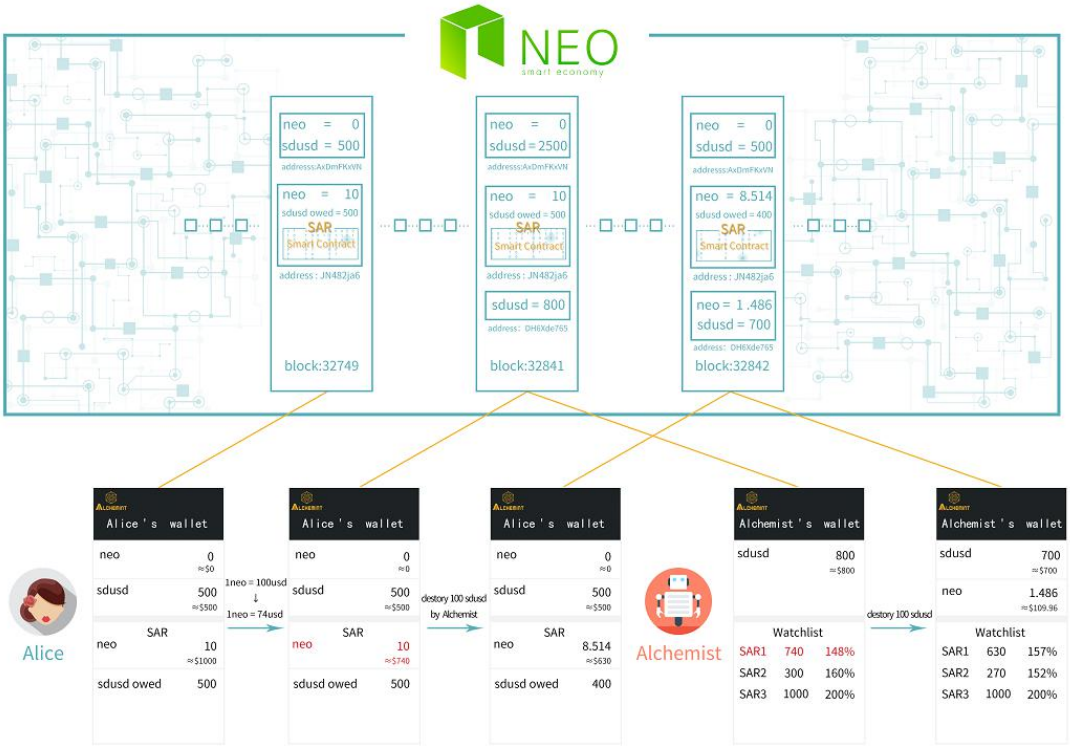
Figure 8: The process of new generation sdusd through mortgage and return



Just like Bitcoin or Ethereum and all other digital assets, the price of neo has relatively big fluctuation. Alice has to face the fluctuant risk since she acquires the sdusd. There is nothing to worry about if the price of neo goes up. The market value of collateral and mortgage rate will be higher, and the risk will be less. Alice will get a higher investment income if she purchase neo with these sdusd.

On the contrary, if the price of neo goes down and the value of neo is less than the sdusd, the price of sdusd will fall below 1 US dollar. The whole system may breakdown. Alchemint designed the automatic liquidation and auction mechanism to solve this problem. When the value of collateral break certain threshold and the mortgage rate falls as well. Alive must add more neo to make the mortgage rate back above the threshold. Otherwise the neo in her SAR will be liquidated to auction. The Alchemist will compensate the sdusd for Alice and get extra income. Alice has to face an extra loss accordingly. This mechanism guarantees that the sdusd has enough value of collateral.

Figure 9: SAR is liquidated and auctioned



2.4.3 Target Price Stabilization Mechanism

The stablecoin sdusd inherits the advantages of digital currency and other digital assets that avoid huge fluctuation of currency's value. It owes to the application of stabilization mechanism.

Under this mechanism, the legal tender of sdusd, take USD as example, is set to the rate of 1:1 initially. They will gradually become soft anchoring afterwards.

When the sdusd and USD come with deviations, the feedback mechanism will be triggered. This mechanism aims to stabilize the rate between sdusd and legal tender (USD) by adjusting the target price's rate of change and incent the market to catch the chance of arbitrage.

The target price's rate of change is set as r. when the stablecoin sdusd deviates the legal tender, r will be adjusted to motivate stablecoin holders, potential users and Alchemist to take part in the arbitrage creating or liquidating the debt of sdusd. By adjustment of supply-demand relationship, the rate between sdusd and legal tender tend to be 1:1.

e.g. r is the target price's rate of change; the adjustment principles are as follow:

N sdt---the amount of NEO changed by 1-unit sdusd

N market---the amount of NEO changed by 1-unit USD

R_Premium(Premium rate) = (N_SDT-N_Market)/N Market

r can be:

r = 0, when R_Premium$<$0;

r = 2%, when R_Premium$\in$[0,2%);

r = R_Premium, when R_Premiun$\in$[2%, 12%);

r = 12%, when R_Premium$\geq$ 12%

The system will automatically set the value of r through above equation according to the average premium of certain period of time (generally 12 hours).

2.4.4 Single-asset Mortgage Mechanism

During transitional period, Alchemint only accept neo as qualified mortgage assets. More categories of digital assets will be added as acceptable collateral.

- **Creation of sdusd**

User creates sdusd through Smart Assets Reserve with the mortgage of neo. The value of neo is fluctuant at any time in spite of that the sdusd is a stablecoin. The value of sdusd must be equal to the value of neo in case of risk. Let's take M1 as mortgage rate to measure the ratio of both parties. Let's assume the mortgage rate is 2. Then: $M_1 = \frac{V_{neo}}{V_{sdusd}} = 2$

When the market value of neo in Smart Assets Reserve is $100, $50 of equal sdusd will be created.

- **Dept Repayment and Stabilization Fee**

The mortgaged crypto digital assets, neo, its original value is V_{neo} priced in dollars. The mortgage rate is A (obviously A is bigger than 1) and V_{neo} / M_1 of sdusd can be created. The equation is: V_{neo} / M_1.

Example: User holds $200 worth of sdusd and M_1 is 2. $100 worth of sdusd can be created in SAR.

After a period of time which is marked as t, the capital of sdusd debt and stalization fee (paid by SDT) must be paid off. The stablization fee is r/year. The sellted price is w (the compared price of sdt and sdusd). Then the stablization fee to be paid is w* V_{sdusd} *r/365 unit of sdt. The sdt which is used to pay will be disposed and withdrawal from circulation.

- **User's Risk Mitigation Mechanism**

The value of neo is fluctuant while user holds the sdusd. The compared price of neo and stablecoin will decrease to M_2 when the value of neo decline. We have to ensure the safety of debt by appling positive risk mitigation circulation when the value of collateral is insufficient either by adding the amount of NEO ($\Delta Vneo$)

or paying back part of sdusd's debt ($\Delta Vsdusd$) to maintain the liquidation rate above specific level, 1.75,for instance. It is showed below:

$$M_2 = \frac{Vneo + \Delta Vneo}{Vsdusd - \Delta Vsdusd} \geq 1.75$$

2.4.5 Multiple Assets Mortgage

The collateral of Alchemint will expand to multiple digital assets in the future. Those include other digital currencies (btc, eth, e.g.), digitized "real world" assets. Sometimes it is two or more combination of those.

From the pespective of credit assets, digital real estates, bulk commodity (gold), shares, and investment foundation will hopefully be applied in more broad field. The SDT becomes more valueable with the expansion of these applications.

Prediction shows that 10% of the worldwide GDP will be digitalized and stored in blockchain by the year 2025. We can predict that there will be 15 to 20 kinds of digital assets in the next five years. Each kind has 5 to 10 specific purposes. For instance, more than 10 of them will link with gold.

The bond issued by the company with the raking above AA has promising future on digitalization. In the future, securities company with good credit can list their bond in sdt to issue digital note and create sdusd as collateral. The holder of sdt will fulfill the duty of risk management and make the mortgage rate of digitalized bond assets by voting.

Each of those assets has independent mortgage and liquidation rate on the basis of its risk feature.

Other digital currencies, digital gold and digital legal tender have respective mortgage rate A and liquidation rate B according to their different features of fluctuation.

The market has fluctuant accumulative-effect. The fluctuation ratio σ between neo and digital currencies, digital gold, digital legal tender is calculated by the model called GARCH (1,1,).

The model is as below:

$$\begin{cases} R_t = \mu + \varepsilon_t \\ \sigma_t = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \beta_1 \sigma_{t-1}^2, (\alpha_0 > 0, \alpha_1 \geq 0, \beta_1 \geq 0) \end{cases}$$

A and B will be calculated based on NEO as criterion:

$$A_i = 1 + \frac{(A_{NEO} - 1)}{\sigma_{NEO} / \sigma_i}, \quad (i = 1, 2, 3, \ldots)$$

$$B_i = 1 + \frac{(B_{NEO} - 1)}{\sigma_{NEO} / \sigma_i}, \quad (i = 1, 2, 3, \ldots)$$

A_i、B_i : mortgage rate and liquidation of asset i

A_{NEO}、B_{NEO} :mortgage rate and liquidation rate of neo

σ_{NEO} : fluctuation rate of neo

σ_i :fluctuation rate of asset i

Example: neo's mortgage A_{NEO} rate is 2; Liquidation rate B_{NEO} is 1.75; neo's fluctuation rate σ_{NEO} is 20%.

Now there is a digital asset with the fluctuation rate of 10%. Then:

$$\text{Mortgage Rate } A_i = 1 + \frac{(2-1)}{20\%/10\%} = 1.5,$$

$$\text{Liquidation Rate } B_i = 1 + \frac{(1.75-1)}{20\%/10\%} = 1.375,$$

1) Obviously, mortgaged assets with greater fluctuation rate require higher mortgage rate and liquidation rate, vice-versa.

2) For other special digital assets like fix-income products, real estate or mineral resources, it is necessary to consider the nature of assets to evaluate the mortgage rate and liquidation rate.

Special recognization by system vote mechanism and timely adjustment are also compulsory.

3) For multiple assets combo, Alchemint will establish specific risk index (the maximum debt ceiling, mortgage rate, liquidation rate, etc.) by considering the features of each assets in the combo and fluctuation's degree of fluctuation (positice correlated or negative correlated).

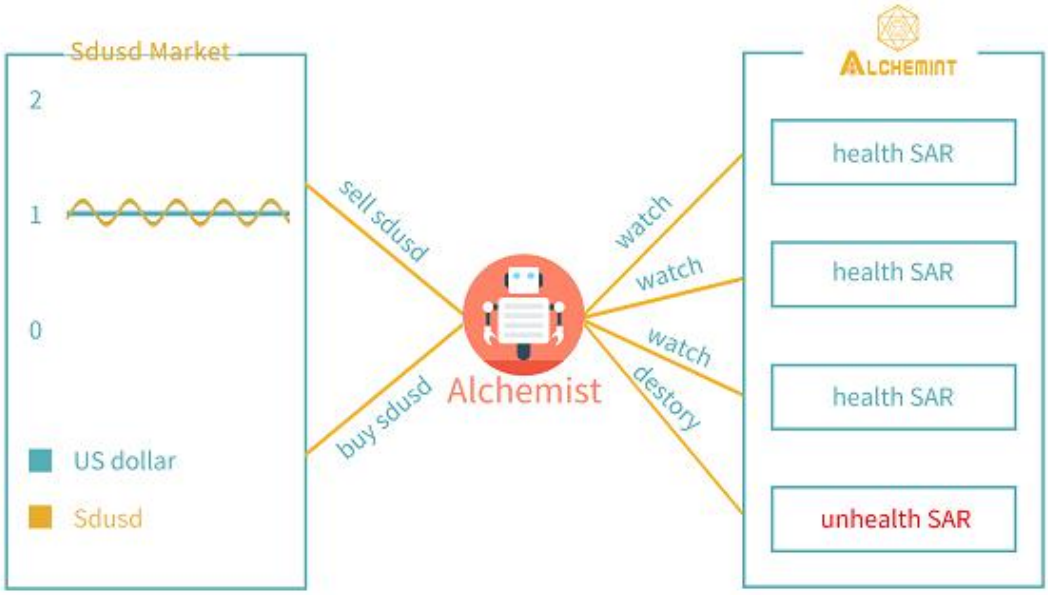
2.4.6 The Alchemist

The alchemist is an outside participant consists of individuals and automated program. The system has a penalty for forcible liquidation so that the alchemist will consistently looking for opportunities to find the SAR which need to be liquidated and repay its sdusd for comission.

Alchemist will also trade the sdusd for the price of sdusd and the price of USD are soft anchoring. The price will have slightly fluctuation with the change of supply-demand relationships. Alchemist buys sdusd when the market price is below target price and sells sdusd when the target price raises.

From this point of view, Alchemist is an important participant of the whole system. It gives support to the internal stability (sufficient value of collateral) and external stability (market price) by economic incentives.

Figure 10: Oppetunist Action



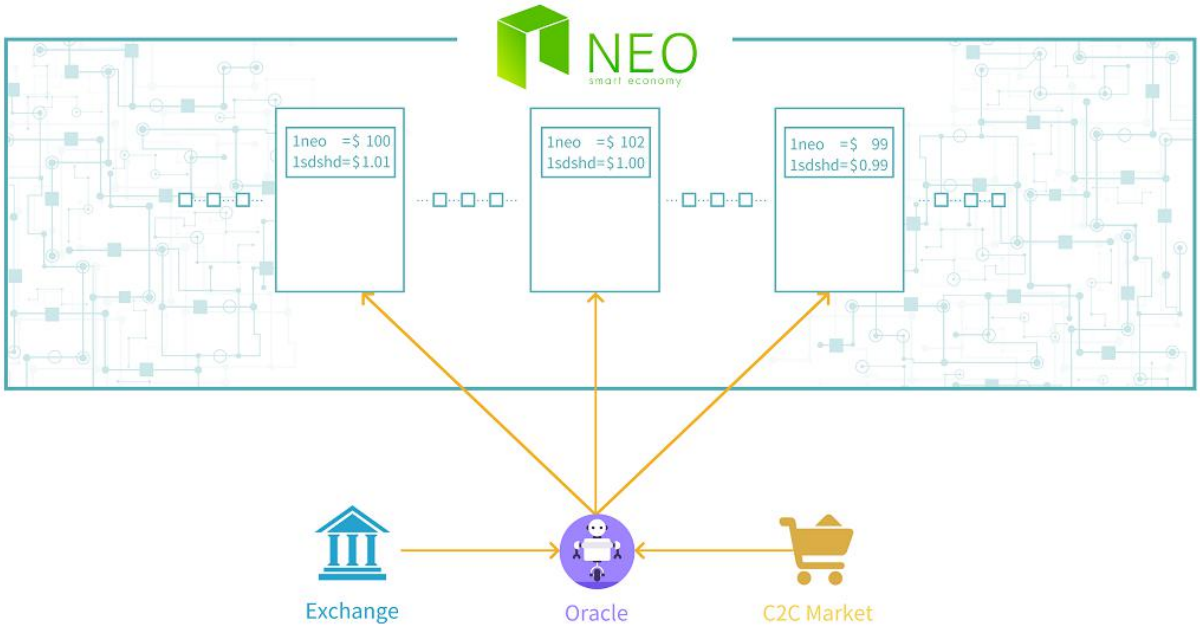
Mechanism

2.4.7 Oracle

SAR needs a real time market price to evaluate the necesity of triggering the compulsory liquidation. Alchemint also needs real time market price of sdusd to detemine the adjustment of incentive mechanism. All these price are external market price that can not be positively sensed by blockchain. Therefore, price-setting mechanism is necessary. An outside participant acquires the price information and transfer it into the blockchain. This outside participant is called Oracle in technical system.

Oracle also consists of distibuted node to avoid the risk of centralization. Holders of SDT are able to choose the node they trust and set the price on Alchemint platform on the basis of market price.

Figure11： Oracle



2.5 Black Swan and coping mechanisms

Although Alchemint has various risk control measures to safeguard the asset security of the stablecoin holders and the sustainable supply of the stablecoin, it is unavoidable that there are always uncertainties in the global financial markets and the impact of the Black Swan event always occurs. For the Alchemint system, we believe that the Black Swan incidents mainly come from two aspects. One is the sudden flashback of the collateral value which leads to Alchemint's failure in executing measures for risk control as it is hard to cope with. The other one is the technical attack on the system platform. For these two events, Alchemint set the relevant counter-measures.

2.5.1 Risk response that Market irrationality leads to a sharp devaluation of collateral

Alchemint sets a series of risk control management and Alchemists are willing to protect the system under the incentive mechanism. However, when there is a sharp devaluation of collateral, Alchemist might be unable to collect enough stablecoin in limited time, or they are unable to sell their collateral in time, so Alchemist might not able to deal with SAR which is unhealthy in debt efficiently. This kind of risks might cause SAR that breaks the buck in large scale in the system, which leads to the collapse of confidence of stablecoin. Thus, we have to introduce qualified Alchemist to take the responsibility of the final security.

The qualified Alchemists has to be equipped with two abilities, the first one is to own a large amount of even unlimited liquidity of stablecoin, and the second one is to be equipped with the ability to sell collateral rapidly. We think that only the large digital asset exchanges have the requirements for the qualified Alchemists. Firstly, exchanges have enough depth in market and it can deal with SAR through acquiring and selling collateral at the same time with the right price immediately. Secondly, as large exchanges have convertibility themselves to some extent, so Alchemint can pre-issue sdbond as a special token. Exchanges can gain 1:1 sdusd through collateralize sdbond. Alchemint would offer different sdbond credit limit towards different exchanges. These abilities safeguard that Alchemist can gain stable benefits from protecting behaviours

and safeguard the efficient implementation of Alchemint's risk control mechanisms.

We will cooperate with superior exchanges to invite them as qualified Alchemist and give them some credit limit of sdbonds. As the same time, this efficient final security measures will enhance the confidence towards Alchemint's sdusd from exchanges and enable sdusd to promote rapidly among exchanges.

2.5.2 Forecasting mechanism of market

In order to maintain the confidence towards value of stablecoin, how to monitor and forecast the market to spread risk before the extreme events happen is an important measure, except completing enough risk control measures coping with extreme events. The fragility of the market, the limited rationality of the participants, and the volatility of asset prices determine the intrinsic instability of digital assets. The stable monetary system is no exception. Because the application of technology is at the early stage, the divergence between regulation and acceptance is huge, and the digital assets as collateral are volatile to a large extent.

In order to avoid this extreme situation as much as possible. Alchemint will set up a monitoring system to predict the market trend of the digital assets as collateral and further reduce the chance of occurrence of the Black Swan by lowering the debt ceiling and raising the mortgage rate and other risk control measures in the short term.

In order to build a targeted risk warning index system, we must analyze the sources of the risk of sharp devaluation of collateral. From the external and internal factors, the main sources of risk are the following four categories:

- The risk of mortgaging inherent mechanism in Alchemint
- The risk of the volatility of the collateral value, ie individual risks
- Systemic risks in digital assets
- Contagion and impact for realistic financial system risk.

Construction of risk monitoring and early warning system

The ideal indicator system of risk monitoring and early warning should not only have good representativeness but also have good operability. It should not only give early warning of middle term and long term risks, but also give early warning of short term risks. Alchemint will build the following risk monitoring indicator system based on the analysis of sources of the risk of collateral price volatility.

Indicator type	Specific indicators
Collateral risk parameters	1. The weighted average mortgage rate for overall system (total debt value / value of all mortgaged NEO); 2. Total scale of sdusd debt
Collateral (For example, NEO) Individual Risks	1. NEO technical innovation or setback (Indexation) 2. NEO ecosystem's expansion or shrinking (Indexation) 3. NEO price volatility
Systemic risk of digital currencies	1. Supervision in digital currencies (indexation) 2. Major risk events that digital currency being attacked (indexation)
Contagion and impact from the financial risks in real economy	1. The 10-year yield rate of U.S. Treasury; 2. 10-year yield rate of Chinese bond; 3. VIX index; 4. The Federal Reserve interest rate; 5. US dollar index; 6. Price of Loco London Gold (LLG); 7. S& P 500 Index, 8. NASDAQ, 9. Shanghai Composite Index; 10. NYMEX Crude oil 11. LME Copper

- **Adjust risk parameters dynamically to mitigate risk**

When the risk monitoring system foresees or shows an abnormal risk and the value of the collateral NEO may fluctuate significantly, the system will adopt one or more of the following risk mitigation measures to reduce the risk of the entire system.

- Increase the pledge rate
- Increase liquidation rate
- Reduce the size of asset debt ceiling
- To suspend the generation of new debt
- After placing the system in a blown state, it is up to the situation of risk event to decide when to continue functioning
-

2.5.3 Technical Failure or Under Attack

Alchemint is established on the foundation of Smart Contracts which may exist potential flaws and bugs. At early stage of the system, the greatest technical risks are malfunction caused by bugs and vicious technicians' attack that target on code flaws.

System bug is the logical error of code which will lead to system's operational breakdown. Generally, it will be solved by all-encompassing test cases during coding. The Alchemint technical team will follow the strictest software test principles to guarantee the correctness of the code and the logic. But it cannot be guaranteed that the system will never have any problems for the test can only prove the existence of error but cannot prove that there is no error in the code. Alchemint will set an open beta period in which a low debt ceiling is created in order to deal with the undetected bugs. After the open beta period, Alchemint team will decide a date to reopen the debt ceiling according to transaction amount and the performance of the system.

Another serious risk is the attacks from vicious technicians. The attackers try to find and take advantage of the bugs to conduct attacks. The worst situation will be loss or stolen of the users' assets. Alchemint team regards the security of Smart Contracts as priority. The system developers will follow the strictest coding principles and apply internal audit on code. Alchemint is going to hire professional external security team to take the independent audit on the code of Smart Contracts. During the open beta period, Alchemint will organize

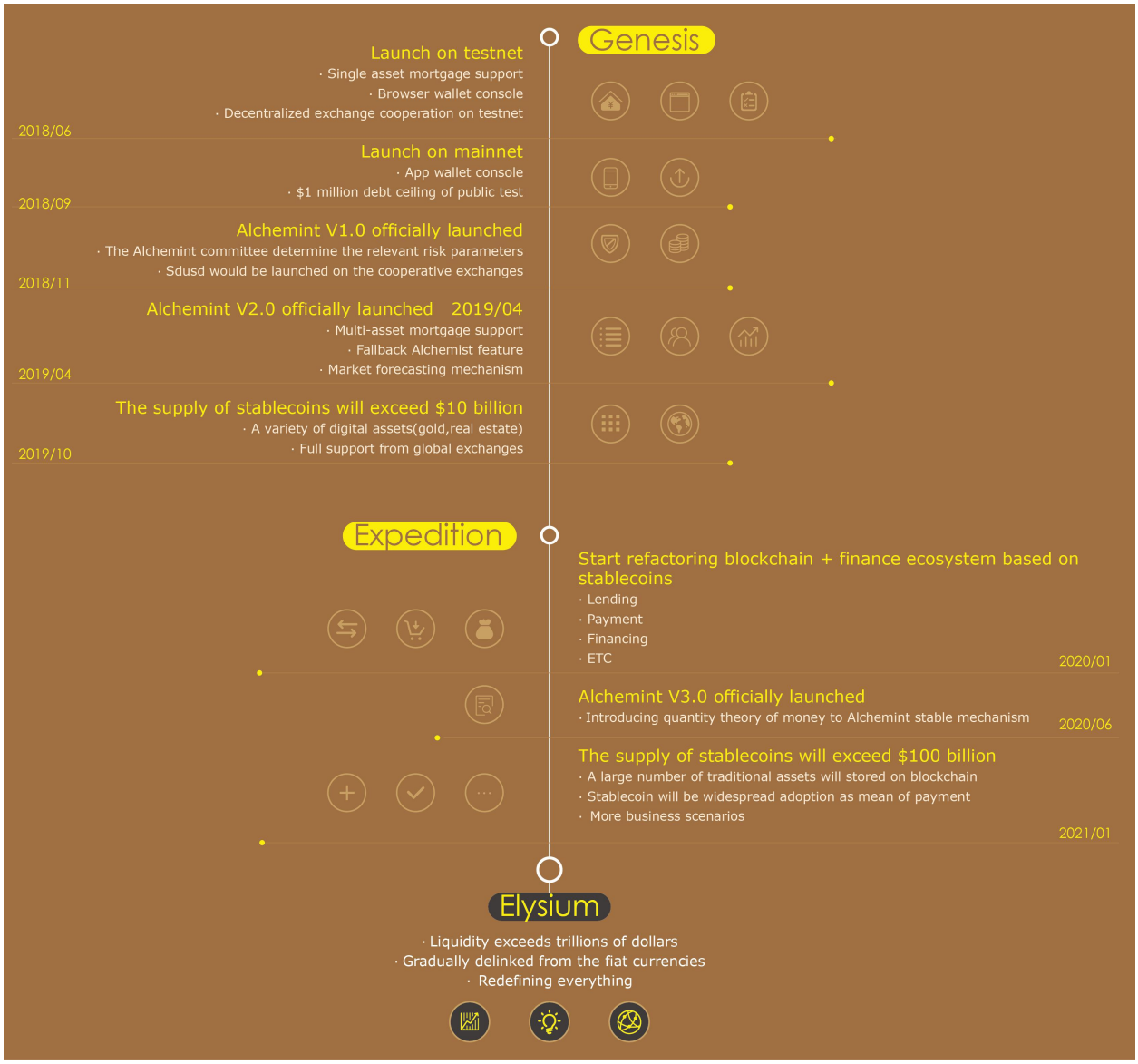
a White Hat team to take an attack test and the discovery of bugs will be rewarded.

Alchemint designed a mechanism of system suspension and overall liquidation which is called the "system reboot". Once the mechanism is triggered, whole system will be suspended. Users can neither create new SAR nor borrow stablecoin. The suspension will take a certain period of time. The holders of SAR at this moment are able to terminate their SAR and redeem the collateral. System will redeem relative collateral to the holders on the basis of locked price. It will be activated after the bugs are fixed. The jurisdiction of the system's restart is controlled by the Alchemint Governance Committee. This mechanism will only be activated when the committee consider the situation is really serious.

2.6 Roadmap

It is quite clear to us that although the management and distribution of a stablecoin is a very complex project, but if we only focus on stabilizing the stablecoin itself and do not pay attention to its application scenarios and its positioning in the entire financial and commercial fields, the Alchemint's market will become narrow, and the changes it can bring to the world will be limited. Because of this, we have divided the entire evolution of Alchemint into three stages. After solidifying the base of the satblecoin management system, Alchemint's focus will gradually exceed the stablecoin itself.

Figure 12: Roadmap



2.7 Alchemint's development of ecosystem

According to Kevin Kelly, the technical elements develop toward symbiosis, which drives us to pursue and build a network of value that maximizes the collective capacity while maximizing personal autonomy.

There are two elements of the network of value in any network: nodes and connections. Nowadays, the basic unit of the internet era of all things becomes "flow", this structural change allows people to begin to re-recognize these two elements, to re-recognize their own individual value as a node and how they work together with other forces to achieve share of wisdom, create value and build community through community autonomy.

Block chain starts the Internet of Value, enabling simultaneous arrival of information, value, products and brans in the community. We also hope that the entire feedback system consisting of quick verification and smart coordination of all parties involved will build the inner core of the smart business and digital economy in Alchemint's community.

2.7.1 Digital Financial Ecology: Distributed Currency, the 'anchor' in the ocean

If we assimilate the entire distributed financial ecology of Alchemint to an ocean, then the block chain basic structure is the continental shelf and the various application services are living things in the ocean. Seawater is Token of Alchemint - SDT, which carries the regular operation of the entire financial community system, and sdusd is the anchor in the sea, that never fluctuates while the seawater fluctuates.

SDT as a functional token of the entire ecosystem, is mainly used to pay commission charge when people redeem collateral if the debt is payed. At the same time, those who hold SDT tokens, participate in the voting governance system of risk management. Thus, we will sell more than 70% of the total amount of tokens to communities, businesses and users.

1) This cycle begins with the end-users. The eco-enterprise pays ETH to get SDT at the beginning as an investor. ETH provides the Alchemint Foundation for platform technology development, promotion of business application collaboration and support for block chain services.
2) SDT is functional token of Alchemint, when the user repay the debt and get back the collateral, you need to pay a certain percentage of the committee fee, the fee can only use SDT to be paid. When SDT is paid, this portion of SDT will be destroyed from the aggregate amount. This means that the greater the demand for stable money, the greater the demand for SDT, and the total amount of SDT will decrease with using.

At the same time, SDT is managerial token of Alchemint, the holders of all SDT can vote for the election of members of the governing board by the governance committee to implement the system of risk control and governance in the beginning. Latter, it will further improve the direct voting mechanism based on community and ecological development of the maturity and soundness in combination with automation of artificial intelligence.

- The governance committee will be mainly composed of financial experts and technical experts, and it will be responsible for the risk management of the following important issues.

For some key system risk control parameters, such as debt mortgage rate, debt ceiling, liquidation ratio, liquidation penalty rate, etc., which needs to be adjusted according to market conditions in high frequency.

- Add or modify the types of collateral assets: The Governing committee will choose reasonable digital currency assets and assets on the physical block chain. After conducting a series of professional ratings, the GHG targets and parameters will be given and included in collateral list of Alchemint.
- Choose a trusted prediction machinery (Oracle): Alchemint uses a decentralized approach to secure collateral and stabilize the market price of currency, which is based on a broad set of nodes of prediction machinery and multiple market price sources.
- When black swan events happen or the system encounters extreme conditions, decide when to pause or restart the system as a whole.

Based on our observation of the block chain industry and the development of digital currencies, we plan to promote the ecosystem in the following ways:

1) To collaborate closely with major international exchanges to actively promote the convenience and efficiency of stable currencies in investment transformation and leverage operation to investors through exchanges.
2) Expand providers of smart contract service and select one or two projects as key breakthroughs to demonstrate the tremendous value of the stablecoin in services such as credit, cross-border trading and gaming;
3) To help and promote gold, real estate, standardization funds and other centralized entities Assets to appear on the NEO's block chain, enrich the variety of smart asset reserves in order to achieve the stability of the collateral assets and stabilize price fluctuations.
4) Extend and penetrate to the traditional real economy. Choose some payment agencies and offline merchants that have high acceptance of digital currency and want to try value-added block chain technology.

In the development tactics of ecology, we should take the promotion of spots to form the demonstration effect so that the block chain practitioners and users can truly experience the function and purpose of the stablecoin and gradually establish the financial service system in the digital currency world.

2.7.2 Alchemint's view of the block chain on stablecoin

- **Seeking a viable path between ideality and reality**

From the advent of Bitcoin to present, block chain technology has been developed for nine years. And it becomes clearer from thinking to concepts, then to the path of practice in various fields

We also believe that the internet of value is started with block chain technology and the revolution of artificial intelligence will profoundly affect the economic development of the entire society, including the financial sector, and will eventually change our lifestyle and gradually wipe out the border between real world and the virtual world.

There are stable coins that are similar with Alchemint in the market, and some of them have a more idealized concept. We think that any technological innovation, especially the breakthrough in the currency field, must start from a pragmatic perspective. Stablecoin should start from solving the problems of stability of currency, payment and settlement, and become the bridge between the real economy and the digital economy in order to pay an important role in the trends of block chain technology in future.

- **landing need to promote market coordination**

There is no doubt that the application of stablecoin has a huge space for imagination. Stablecoin is creating a financial system in digital economy, which is a huge ecological engineering. It cannot be accomplished by one project Alchemint itself.

As the America chairman of cftc said in his testimony on the U.S. Senate Digital Money Hearing which was just end: 'Block chain technology can eventually enable financial institutions to save up to $20 billion in costs of infrastructure and operating costs annually.' Block chain technology can make the costs of transaction settlement reduce by 1/3, and reduce capital needs to 120 billion dollars.

Facing the time that traditional financial process and the process of participating in the economic transformation, we will urge and promote more traditional financial services industries and actively apply the block chain technology to add value on securities settlement, property records, cybersecurity, records of trading activities and data analysis. As part of the infrastructure in financial system, we believes that stablecoin will play a more vital role in financial services such as securities trading, credit, futures contracts, payment and settlement in future as more members in the market have accesses and open up.

Three stages of development path

1) The first phase of testing and observation period

In our opinion, in the first stage, the stablecoins are mainly represented by centralized collateralization model (bts), Decentralized collateralization model (Alchemint) and coinage privilege model (basecoin). They are mainly used in the payments for exchanges, gaming and small amounts of payment. For example, leveraged investments in digital currencies on the exchange, digital tokens in the gaming industry, and some commercial service organizations that willing to try new things. The main application area is for digital currency investors.

2) The second phase of the promotion of application

As more users understand the role of a stablecoin and the massive completion of block chain commercial projects, numerous block chain projects will become the first successful business practices of the stablecoin, including block chain p2p platform, asset securitization platform, e-commerce platform and so on. Stablecoin will become the medium of exchange for block chain financial services.

3) The third phase of popularity in large scale

We see that although governments are still cautious about digital currency, they generally support and welcome block chain technology. In future, block chain technology will be applied in large scale. According to the purpose and positions of different main bodies, the public chain, all of the coalition chain and the private chain will have great development and growth to different extents.

We predict that more traditional financial institutions, such as banks, brokerages, funds and stock exchanges, will introduce block chain technology partially or comprehensively in order to solve issues as accounting, deposit, security and settlement better. The financial assets in centralization will also be gradually reflected on the block chain, and the border between the real economy and the virtual economy will gradually blur. The stablecoin has become an indispensable part of digital financial system in future.

PART3

Governance philosophy and structure

3. Governance philosophy and structure

How to maintain the sustainable development of the social community and the team is the focal point that the Alchemint team has always been discussing and thinking. The team builds an effective and collaborative community platform with the advantage of decentralized block chain technology. Nevertheless, the experience of the corporate governance structure can certainly be referenced in order to improve the Synergistic efficiency of the blockchain community and to standardize the operating activities of the community.

3.1 The establishment of the Alchemint Foundation

The Alchemint Foundation (following will be called "Foundation" for short) is a non-profit entity established in Singapore in January 2018. As an advocacy entity of the Alchemint blockchain, the Foundation is devoted to develop and construct the Alchemint, as well as advocate and promote the transparency governance, to boost the safety and harmonious development for open source ecosystem communities.

3.2 The Governance principle of the Foundation

The governance structure of the Foundation is designed primarily to consider the sustainability of the opening platform, the effectiveness of the strategic formulation, risk management and control, and the efficient operation of the economic platform for the Alchemint blockchain. The governance structure of the Foundation is based on the following principles:

- **The fusion of centralized governance and distributed structure**

The Foundation absorbs the core vision of a certain extent of centralized governance in the management structure, including the highest decision-making access and major events' centralized procedure power for the strategic

decision-making committee, in order to improve the efficiency of the integrate community operation.

Coexistence of the functional committee with the functional unit

The Foundation will establish permanent functional units to deal with the general business under normal routines, such as the department of Research & Development, marketing development, operation, finance and human resources.

At the same time, it will establish the professional functional committee to make decisions on the important functional items. Unlike functional units, the functional committee exists as a virtual structure, and its members can be from the whole world without necessary full-time work. However, it must meet the requirements of the committee's expert qualifications and be able to guarantee its presence and proposed opinions when the committee needs a discussion. The functional committee will also set a regular meeting regulation to ensure the effective advance of major decisions.

Risk-oriented governance principles

Risk management is established to be the most important element when conduct a research to ensure the establishment of the Foundation and the strategic development and decision-making process of the Alchemint blockchain.

As a computer technology with great revolution significance, the development of the blockchain is still in its infancy, so it is extremely essential to hold its development trends. The principle of risk management is to ensure that it fully considers risk factors, risks issues, and their probability of occurrence and corresponding impacts when the Foundation makes important decisions. Meanwhile, corresponding coping will be formulated in terms of decisions.

Coexistence of technology with business

Alchemint starts from the ideal, insists on the goal of closed fusion towards the business. The formulation of the Foundation also follows this purpose. Even though the Foundation exists as a non-profit organization, it hopes to maximize its recognition within the business world and obtain the profits from of business applications. Meanwhile, it also hopes to give feedback to the Foundation and communities concerning further development and upgrade of the Foundation and the Alchemint.

- **Transparency and supervision**

With reference to the governance experience of the traditional business world, the Foundation also proposedly establishes a professional Whistle-Blower. The designated staff in the strategic decision-making committee are regarded as a window, to welcome the community engages in the management, the supervision and the operation and be able to report "findings" promptly and confidentially. These findings include, but are not limited to: new breakthroughs or recommendations that have a significant impact on the Foundation or blockchain technology, community operating issues, crisis information, fraudulence or fraud reporting and so on.

Through regular reports and occasional press releases, the Foundation also discloses and reports the operation of the Foundation and the progress of Alchemint's progress to all parties involved in the community. Meanwhile, the contact details of key managers in the Foundation will also be fully disclosed to accept supervision and communication from all parties involved.

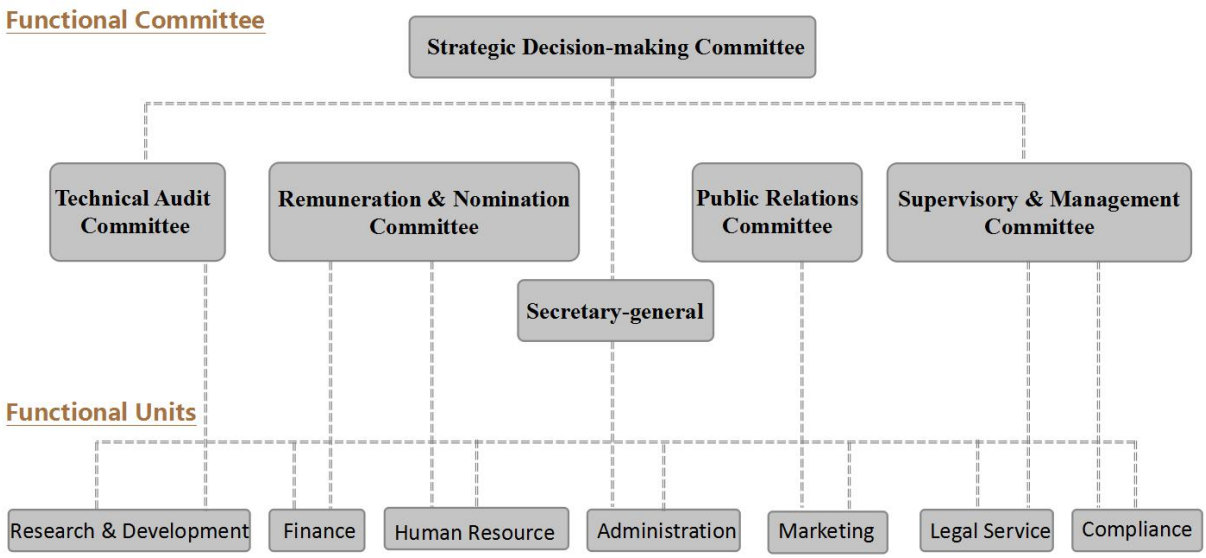
3.3 The organizational Structure of the Foundation

The Foundation proposes a combination of the professional committee and functional departments in the organizational structure to deal with daily work and special events.

The establishment of the Foundation takes the operation of traditional entities as a reference, to set various functional committees, such as the strategy committee, the technical committee, the remuneration and nomination committee, and the public relations committee.

The organizational structure of the Foundation is shown below:

Figure 13: Organization Structure of the Foundation



3.3.1 Strategic decision-making committee

The Foundation's highest decision-making institution is the strategic decision-making committee. Its main objective is to discuss and solve important policy-making issues confronted by the Alchemint community development, which includes but not limited to:

- Modify the governance structure of the Foundation;
- The resolution of the formulation and rotation within the stratigic decision-making committee;
- Appointment and rotation resolutions for the secretary-general in the Foundation;
- Appointment and removal of the responsible person and person in charge of the various functional commissions;
- Review and revision of the Foundation regulations;
- Strategic development decisions for the Alchemint blockchain ;
- Changes and upgrades for the Alchemint core technology;

- Emergency decision-making and crisis management agenda and so on.

The members of the strategy decision-making committee and the chairman of the Foundation hold a term of two years, and the chairman of the Foundation shall not be re-elected for more than two consecutive terms.

After the term of the strategic decision-making committee finishes, fifty community representatives are voted according to the consensual mechanism of the Alchemint blockchain of the next generation. Then, five people from the decision-making committee will be voted to be the core members who will represent the Fundation to make important and urgent decisions, and will need to receive a credit investigation during their term and disclose their remuneration.

The above important issues need to be voted by in real name. Each member of the committee shall have one vote and the president of the Foundation shall have two votes. The resolution made by the decision-making committee must obtain the approval of more than half of all the members who serve within the committee currently.

The decision-making committee meeting should be attended by the committee members in person. If he or she is unable to attend for any reason, he or she can entrust to other members of the committee to attend the meeting by writing a formal paper. Those who have not delegated their representatives shall be recognized to give up their voting rights at the meeting.

3.3.2 Secretary-general

The secretary-general is elected by the strategic decision-making committee, who is responsible for the daily operations management, the coordination work of subordinate committees, the host of the decision-making committee meetings for the Foundation.

The secretary-general is the chief executive of the Foundation's administrative affairs and conducts unified guidance and coordination on the daily operations, technology development, community maintenance and public relations of the Foundation. Meanwhile, the secretary-general will connect business units with the functional committee which govern the structure.

The secretary-general reports work to the decision-making Committee regularly.

3.3.3 Technical Audit Committee

The technical audit committee consists of the core developers in the Alchemint's development team. It is responsible for setting the decision-making rules, developing the bottom R&D, the development and audit of opening ports, and the development and audit of technical patents, and so on.

In addition, members of the technical audit committee regularly understand the dynamics and hot spots of communities and industries, communicate with participants in the community, and hold irregular technical seminars.

3.3.4 Remuneration and nomination committee

The remuneration and nomination committee is established to be responsible for determining the selection and appointment of key management personnel in the Foundation. The committee sets rules for procedures to assess the managerial competency and authorize the appointment. At the same time, the committee sets a pay system to motivate individuals who have made significant contributions to the Foundation.

The remuneration and nomination committee regularly assesses performance for all members of the Foundation. Besides, it gives advice to the adjustment of human resource structure, and puts forward with different incentive measures to absorb and retain talented experts.

3.3.5 Public relations committee

The goal of the public relations committee is to serve the community, including Alchemint technology promotion; build, maintain and exchange resources with its partners; Alchemint commercial promotion as well as publicity; community crisis public relations and social responsibility etc. The committee is responsible for regular press conferences, external announcements about major issues, and conducing solving inquiries with answers. If an event has impact on the reputation of the Foundation, the public relations

committee will act as a uniform channel of communication to issue an authorized response.

3.3.6 Supervisory and management committee

As a highly autonomous body, the supervisory and management committee is located within the Foundation as an independent oversight and risk management control of the overall operations of the Foundation.

The supervisory and management committee provides daily guidance to the Foundation's legal and compliance departments. At the same time, the Foundation establishes a transparent open reporting mechanism. The supervisory and management committee directly accepts internal and external issues reported and conducts corresponding investigations and improvements in order to ensure that the operation of the entire Foundation is fully legal and be improved within an acceptable risk level.

The supervisory and management committee reports to the strategic decision-making committee directly and does not have any conflict or overlap with the rest of the Foundation's other functions.

3.3.7 Other functional departments

The Foundation establishes its daily operating departments with a reference to the corporation regulation structure. For example, the units of human resources, administration, finance, marketing, research and development (or laboratory) etc.

3.4 Alchemint Human Resource Management

Alchemint is committed to create the most influential ecosystem of the open-source community in the world. To ensure the successful development at the technology level, and the ongoing and effective operations, the Foundation will be committed to recruit talented technical developers and management personnel with a deep understanding of business.

- **Recruitment**

Based on the characteristics of the blockchain that it has no borders, the Foundation's first requirement is geographically unrestricting for recruiting staff. It is very pleased to welcome talented people from all over the world to join the Foundation. Except certain jobs that must be recruited locally (eg. Logisticians management staff), other jobs are not restricted to the workplace location or the form of work.

At the same time, the Foundation will draw up human resources plans, recruitment procedures and vetting procedures based on best practices in human resources management to ensure that the Foundation attracts suitable personnel.

As an open-source community, Alchemint not only recruits full-time developers, but also employ well-known technical consultants in the industry. Relevant employment and payment need to be discussed and decided by the remuneration and nomination committee and signed cooperation contracts as well.

3.5 The Foundation's economy

The Foundation advocates the following key principles in economic operations:

- Take non-profit as the main principle, what takes in the community will be given back to the community;
- Sustainable development
- Corporation and mutual assistance, and resources sharing

Economically, the Foundation strives to achieve a balance of income and expenditure while pursuing growth and promotion of the community. In addition to the initial funds acquired during the ICO, the Foundation will obtain the income of digital assets through community ecological operations. Under the arrangement of the third-party trust agencies, the Foundation will allocate benefits to various operations and community development with public transparency.

The Foundation will have a full-time financial management team to maintain and regulate its daily financial and digital assets. The financial management team mainly reports to the strategic decision-making committee of the Foundation and fulfills the responsibility of reporting and disclosing the financial management reports concerning the fund network regularly.

3.5.1 Sources of funds

The major source of income and funds is divided into two aspects in the Foundation:

- The non-recurring operating income includes the start-up capital obtained by the initial ICO and investment income for digital assets;
- Income from regular operations, including sales of research and development products, transfer or authorized use of patents, academic exchanges and contributions etc;

The following is a detailed description of the main sources of income.

Alchemint tokens to be set to 10 billion (sdt). The distributed plan is as follows:

- Initial startup assets

Table 1: The distributed Plan for Alchemint Token

Proportion	Distributed plan	Details
20 %	Public sale	The income of sdt Public sale will be used for the Foundation's operations, including development, marketing, finance and legal advice etc.
15%	Private investor	Private investors are person that have great influence both inside and outside the industry and will be very helpful to Alchemint projects, both in technology and in business development.
10%	Cornerstone investor	Cornerstone investors provide important help and resource support for development and promotion in Alchemint project.
10%	Founding team Development team	The founding team and the developing team make a contribution to human, resources, material resources and technology in Alchemint's development, so in return issuing sdt to repay
30%	Community development fund	Maintain the continuous operation and development of the Alchemint team and the community
10%	Commercial get down to earth promotion	Choose suitable industries for strategic deployment, project support and tokens replacement in the industry, for industrial applications through Alchemint technology to truly commercialize the plan
5%	Consultant	Consultants and legal compliance

- Digital assets investment

In its ongoing operations, the Foundation will allocate approximately 5% to 10% of its capital or digital assets to invest in blockchain industries, such as incubating start-ups, angel investments, and investing in emerging scientific research and technology. The proceeds from investment will also be used for community development.

3.5.2 Fund usage budget

As mentioned earlier, the Foundation will use funds mainly in daily operations, technology development, business development and reinvestment.

The use of Alchemint assets is based on the principle of openness and transparency, and will set up independent accounts and digital asset wallets' address to use. The committee monitors the flow of digital assets and shares it regularly with the community.

- **Principles of use**

Exceed 1 million yuan (or equivalent digital assets) will need have the approval of the secretary-general and the person in charge of financial units; more than 500 million yuan (or equivalent digital assets) will need to be approved by the decision-making committee.

3.5.3 The report of financial planning and implementation

The financial and personnel management committees will make financial planning and summarize preceding quarter's financial performance quarterly. The financial report can be formed and then submitted to the decision-making committee for audit.

3.5.4 Digital asset management

The Foundation's digital assets are arranged by full-time financial personnel authorized by the strategic decision-making committee. Digital asset transactions and legal currency transactions are arranged for independently and timely financial bookkeeping, following the best practices in internal

financial controls. The Foundation will adopt multiple signatures to ensure the safety and accuracy of assets. All legal currency collected is converted into digital assets promptly and deposited into digital wallets. Foundation assets cannot be deposited in personal accounts.

- **Digital wallet management**

Based on the principle of independence, the wallet of the Foundation adopts multiple signatures. If add the signature, it needs to get authority from the strategic decision-making committee. Large amount of tokens are stored cold when small amount of tokens use multiple signatures.

- **Disclosure items**

Each year, the Foundation will disclose Alchemint's condition regarding development, operations, promotion and the operation of the Foundation to the community. For the financial situation of the Foundation, financial reports will be conducted on a quarter basis, and it also will be disclosed for the annual reports' audit.

The Foundation builds a public relations committee to hold regular and irregular release meetings as an external window to publicize important news of the Foundation.

PART4

Project Consultant and Team Members introduction

4. Project Consultant and Team Members Introduction

Alchemint is the first stablecoin project based on the NEO public-chain, which first exposure has gained highly market attention and support. The consultancy team is included experts and veterans across multiple industries such as numerous blockchain, internet and financial industry

4.1 Project Consultant

Sun Ming　Fenbushi Capital Legal Advisor

Sun Ming graduated from Law School of Fudan University in 2002, who is a partner of Chezoo Law Firm and acted a Fenbushi Capital legal advisor since 2011. Mainly engaged in mergers and acquisitions, banking and trust, digital currency, blockchain and distributed ledger technology. Mr. Sun has extensive experience in foreign investment and corporate mergers and acquisitions and is also the earliest researcher and legal expert in digital currency and blockchain technology in the world.

Professor Wang Yanming　Ph.D. in Mathematics

From 1990 to 1992, he was a postdoctoral fellow at Peking University and a visiting scholar at universities in 16 countries such as MIT, the University of Minnesota, and the Australian National University. He is currently a professor and doctoral tutor of Faculty of Mathematics and Finance at Lingnan college in Sun Yat-sen University and also is a part-time professor at Macau University of Science and Technology and Nanchang University. He is also a comment expert of the National Natural Science Foundation and National Natural Science Award.

Professor Wang Yanming's research interests include financial engineering, financial markets and investment, risk management, algebra, information security and cryptography. He has published over 40 research papers in the SCI index source journal.

Chen Yu (Jiangnan, younger cynic) Founder of the Juxiu Capital

Chen Yu, partner of Juxiu capital. Famous angel investors. He invests more than 200 internet companies. The "pay revolution", as well as personal writing "Wind within Jiangnan of Internet Finance" are well-known best-selling book in the field of finance in China. He is selected in the fifty list of Chinese Internet finance for five consecutive years, and who is the popular person annually in the Hurun list in 2016 and 2017.

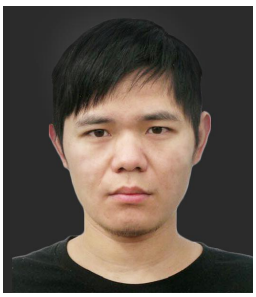
NEO Council

NEO is an internationally renowned non-profit community blockchain project that uses blockchain technology and digital identities to digitize assets and make automated management to digital assets through smart contracts in order to achieve an "intelligent and economical" distributed network. NEO officially launched in 2014, and then realtime opened source in Github in June 2015. NEO is recognized as one of the most successful public chain projects, known as "China Ethereum."

Currently, the market value of NEO is about 70 billion yuan, ranking sixth in the global digital currency market.

Pauline Xu Hayek Capital Founder

Blockchain Ventures, INB, Hyperchain, Currency Advisor, Senior Researcher in Blockchain. Liberal, a researcher at the Tianze Economics Institute.



Liu Ming

Liu Ming graduated from the major of philosophy of Peking University. Former COO of tron, chief strategy officer of MAG and the founder of BPA. Also, BPA is the first breakthrough in the use of DAG technology in bitcoins, which can be used to solve the issue that bitcoin cannot be paid on a large scale.

Cindy Fang BK Fund Cofounder, CFO HKICPA

Master in Professional Accounting of City University of Hong Kong, was worked for Baker Tilly Hong Kong and PKF Hong Kong, which mainly participate annual audit of many main board listed companies. Have experience in formulating and analyzing the valuation and turnover rate of the secondary market of the cryptocurrency and developing and adjusting relevant investment strategies.

4.2 Founding Team Core Members

Alchemint team members mainly from the financial, Internet industry, combination between senior industry experts and enthusiastic blockchain lovers with adhering to a common ideal to come together.

Zhang Ting　　Chief　　Financial Master, CFA

She has extensive experience in the securities, media and Internet finance industries, and she is a liberal and internet entrepreneur, who has served as investment adviser in investment securities, editor in media finance, p2p Wealth COO, community finance platform CEO. And also, she has extensive experience in the operation and management of Internet financial product innovation, supply chain finance, asset securitization, risk control systems and Internet platforms.

Qi Feng　　CTO　　Master of Computer Science

He has over 10 years of experience in information technology construction and management in the financial industry, who has successively served as general manager of Sinosoft E-Commerce Division, senior consultant of Financial Division in Neusoft Group and chief technology officer of Harmonia Capital. And also, he has extensive experience of insurance core business, Internet finance, Internet insurance, digital asset trading platform of system development and platform management. In 2017, he has partnered with Bitpoint, a Japanese licensee, to set up a digital asset exchange in mainland China that will be responsible for the construction of the technology platform as well as on-line operations.

Zhang Wei　　Product Director　　Master of Economics

He has graduated successively in major of bachelor degree of international finance, master of finance, master of economics. From 2007, he was engaged in derivatives investment management and risk control business in the futures industry. From 2008 to 2016, he worked as a product manager and investment adviser at the head office of a large-scale internationalized state-owned bank in China and was engaged as a consultant for product innovation, risk management and asset allocation. In 2016, he worked in the management

and operation of ultra-high net-worth customer products in the family office. So he has rich management and practical experience in the futures trading, stock pledge, debt mortgage, risk hedging, derivatives product design and development and other areas.

Steel Chen Core Development Engineer

He has been an IBM Senior Engineer and Financial Technology Specialist for 8 years, who has architectural design and project management experience with systems from several large financial institutions. And also, he has led the overall architecture design of digital currency trading system, and development of high-performance matching engine.

Lei Geng Core Development Engineer

Full stack engineer, senior engineer for smart contract development, participated in several digital currency exchange programs and specializing in the development of wallet applications and digital asset management.

Joe Wu Core Development Engineer

He has more than 8 years extensive experience in mobile applications and network instant messaging systems with more than 8 years of development experience, and as a communications technology expert of the bottom of the blockchain P2P.

4.3 Main Investment institutions

Cornerstone Investors

Fenbushi Capital	NEO Council	Juxiu Capital

Private Investors

Hayek Capital	BK Fund	Signal Ventures
Starwin Capital	Crypto Partners Capital	

PART5

Implementation Plan

2017.11	Project Initiation
2017.12	Set up technical core group, build R&D framework
2018.02	Display website building
2018.03	Complete development of SDT
2018.04	Issued tokens and listed in the first time
2018.05	Complete testing, web version of wallet 1.0 on the line and start community operations
2018.07-09	Test application platform with partners
2018.09	App wallet 10.0 on the line, promote industry solutions and community integrated platforms
2018.12	Expand 1~2 overseas banks, futures contracts, third-party payment and other supporters

Alchemint

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