White Paper

GSTAR(GOX)

GSTAR TEAM
Anthony Abunassar

April 23th 2021

table of contents

Ⅰ. Purpose of Development

1. Background of Gstar Development

The monetary system used by mankind has a long history. Perhaps the monetary system is one of the best inventions mankind has devised. The monetary system has many convenient aspects, but there are also a few limitations. We have seen the collapse of the Bretton Woods System in international financial markets and continued issuance of money without any specific counter measure in some countries suffering from hyperinflation. Some financial experts question whether the US dollar is no exception and whether this monetary system will continue into the future.

Concerns about these monetary systems induced a necessity for developing new monetary system and Bitcoin emerged shortly after the financial crisis caused by the bankruptcy of Lehman Brothers.

It is expected that the concept of 'block chain technology' and 'decentralization' brought by Bitcoin in 2009 will not only result in appearance of various virtual currencies, reduce transaction costs by increasing the stability of transactions in the money market and by eliminating barriers between countries but also trigger a new business model in the era of the Four Industrial Revolution.

Since the emergence of the Ethereum, which is currently the second largest, many cryptocurrencies (Ethereum based Tokens) such as ADA, EOS, and ICON argue that they either have their own market, have improved transaction speed and security or have applied a new platform technology that can replace the Ethereum.

However, there are many problems and limitations in applying virtual money to the real world. The business contents of newly emerging cryptocurrencies are unrealistic or 'under development' and most do not have proven the technology applied. The white paper only contains a vague plan to issue tokens without their own technology and run business in the future.

As can be seen in some white papers, unrealistic rosy blueprints of some coins like 'exchangeable with gold', 'applicable to electric cars' or 'builds a platform for exchanging personal biometric information' that cannot be realized even after 5 years paralyze our rationality.

Gstar (hereinafter referred to as "GOX") began with disappointment of these claims and regrets over the coin environment. Our GOX has been developed to preempt the cryptocurrency market as coin in practical use with a concrete business plan that can be realized within months or a year, unlike an unrealistic rosy blueprint plan that cannot be realized within short period of time that many other coin white papers show .

2. Gstar(GOX) Vision

1) Vision

We intend to clarify the actual market of GOX and its future by structuring and extending the GOX ecosystem in the mobile environment, centered on the creative industry in the real world.

More than 2,000 cryptocurrencies are now traded on the exchange. Most cryptocurrencies, except Bitcoin, are valued and traded only with the trading without having a real market. We have a belief that the cryptocurrency in practical use will ultimately dominate the market. Our belief is confirmed by the past cases of escalating coin prices only with the simple headlines of 'it is likely to be used in ~'. Now, the cryptocurrencies in practical use has existing and investment value.

GOX has been developed with the specific business model aimed at being used immediately after launch. This is fundamentally different from other new cryptocurrencies only concentrating on trading at the exchange. We will apply GOX to the real world and contribute to developing and modifying the block chain technology.
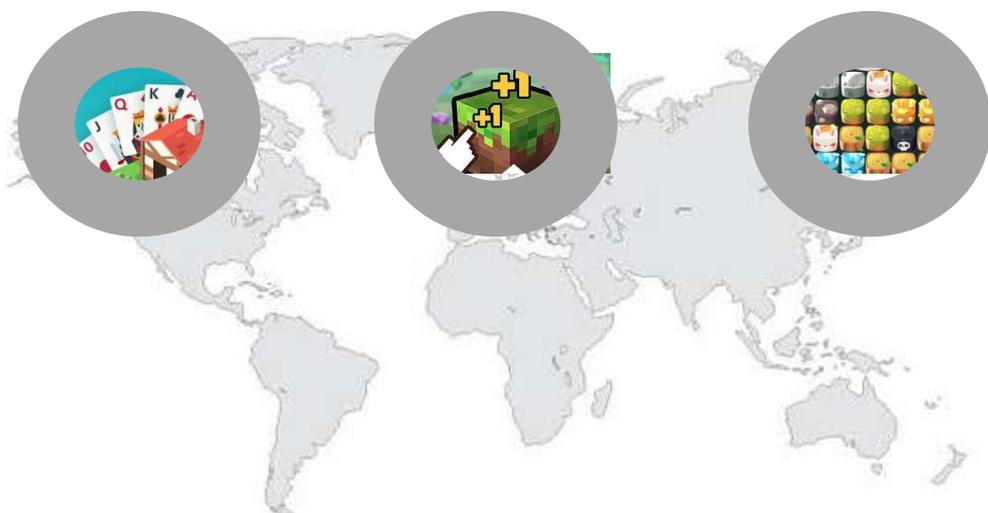
2) GOX Ecosystem

We bring the various sectors (communities) of the Creative Industry in the real world into smart mobile phones and connect them to GOX to structure the GOX ecosystem. The GOX will flow like blood through the ecosystem that we have constructed and will play a role in linking and revitalizing within community, between community and the ecosystem and the real world.

Community 1

We launch a web-based mobile game using GOX. Web-based mobile games do not need to be downloaded from Google or the Apple store, unlike application-based ones, so gamers can enjoy games anywhere in the world. We are competitive as we implement games with our own technology and knowhow. Our smartphone games can be started from simple games anyone can play, regardless of age, to more complex casino games.

We will develop a new ecosystem of mobile by launching and deploying games at surprising speed for everyone in the world by applying block chain technology. We have developed and have a cryptocurrency technology which allows to apply the advanced block chain technology to games.

Community 2

We will be running a mobile lotto. Local or worldwide people can participate. It is a way to get many users to participate in the blockchain ecosystem on mobile or in a short time. We want to quickly activate the blockchain through the lotto system. Our lotto system allows the poor or the rich to participate equally. The lotto system is a practical business model. Almost all cryptocurrencies aren't actually doing business. We want to apply blockchain technology to practical business models. The activation of the lotto system is the activation of the blockchain ecosystem. We live in a surreal society where the world is connected as one. Digital currency is essential in this world. Now, the technology of the blockchain is the core of the digital currency.

Community 3

We build a new internet broadcasting community using GOX. Internet broadcasting is a one-person media and many people are participating. Viewers give paid gift or reward to their favorite BJ, and GOX will replace it. As viewers pay GOX directly to BJ without going through the agency, BJ does not have to take the risk of settlement, which will make he/she to immerse in broadcasting, and viewers have a belief that their coins are delivered 100% securely to BJ.

In addition, it provides an opportunity for the potential stars who made it through the final stage of audition to appeal themselves to get closer to the public by providing an entertainment permanent stage in the internet broadcasting. These star casting and GOX payment methods will go beyond the borders and contribute to invigorating the internet broadcasting industry.

Our team members include internet broadcasting program planners and participants.

GOX Ecosystem

We will announce three communities of games, audition programs, and Internet broadcasts in sequence and organize them into one GOX Ecosystem. Each community works independently and connects to GOX simultaneously.

The GOX will be created and used by each community and will flow into other communities and work together to create synergies. For example, the GOX purchased from the exchange may be injected into the GOX Ecosystem, and the GOX mined from the mobile phone may be used for game, audition program fee, or as a gift to Internet broadcast BJ.

Various other communities including donations, lottery tickets, tourism, fund raising, and others will be added to the GOX Ecosystem in the future. Each community will evolve itself, and expand the ecosystem through interconnectedness.

.

Building an ecosystem of smart mobile

We will open the era of smart mobile through the use of Gstar. In addition, we will build a smart mobile ecosystem that enables micropayments around the world through smart mobile. The first start of the ecosystem will be games, Lotto and broadcast. And by expanding it, we will build a creative industry.
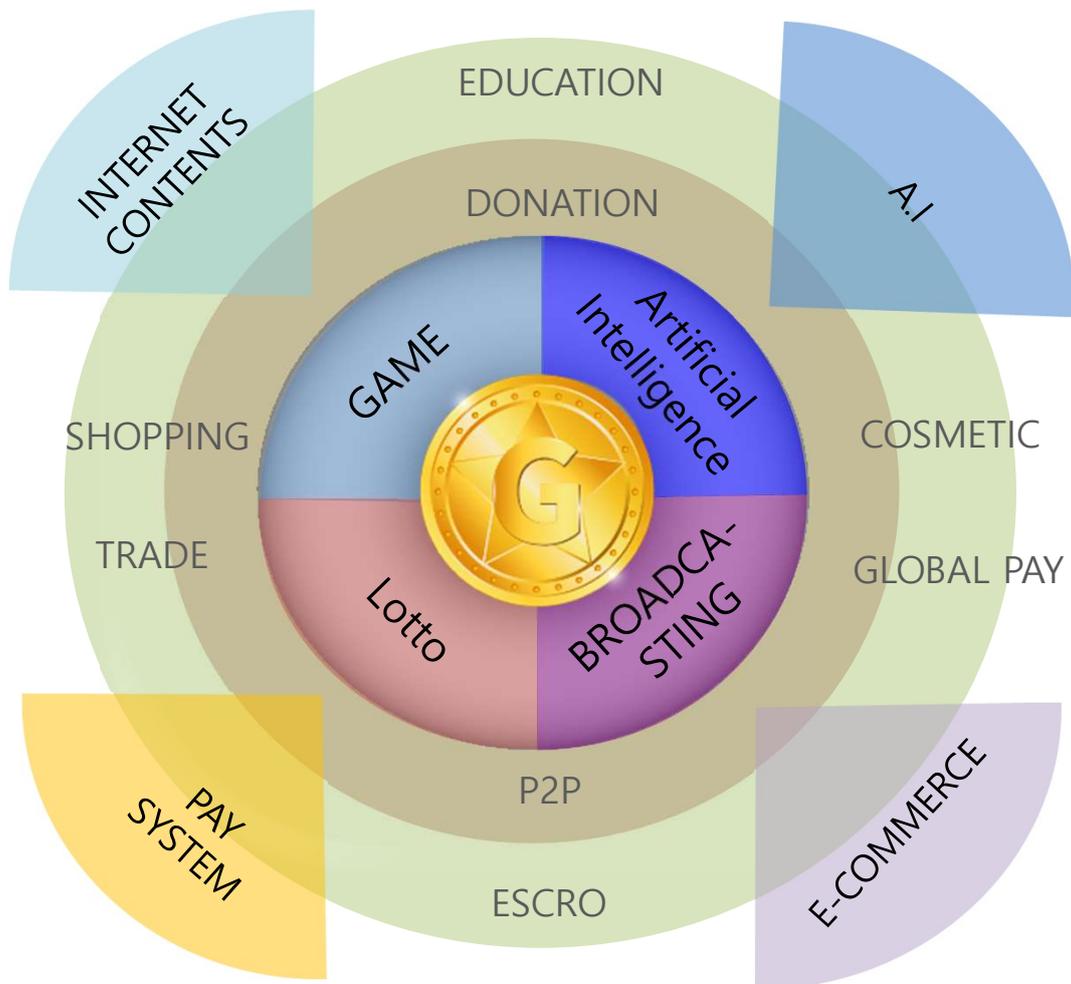
Ⅱ. Technical Framework Of GOX (GOX technology)

1. Basic Architecture

Gstar is a block chain based cryptocurrency like Bitcoin. While Bitcoin updates the ledger every 10 minutes, GOX is renewed every minute. Of course, at the beginning, coins will be sent and ledger will be updated within a few seconds. However, it is anticipated that the speed will slow down to an average of 1 minute as it gets more globalized. If the exchange slows down the authentication, the transfer time of the coin will of course take that long. It is a matter of operation at the exchange.

Since GOX's mining continues to increase in difficulty, we plan to supply 5 billion GOX to the market by making a lot of mining participate in the initial stage. Since GOX will be used immediately in the GOX ecosystem, pre-mining is required. Some are distributed through ICOs and exchanges, and some are intended to be supplied to the market through mobile mining.

< Coin mining Graph >

Mining amount(%)

Mining period (years)
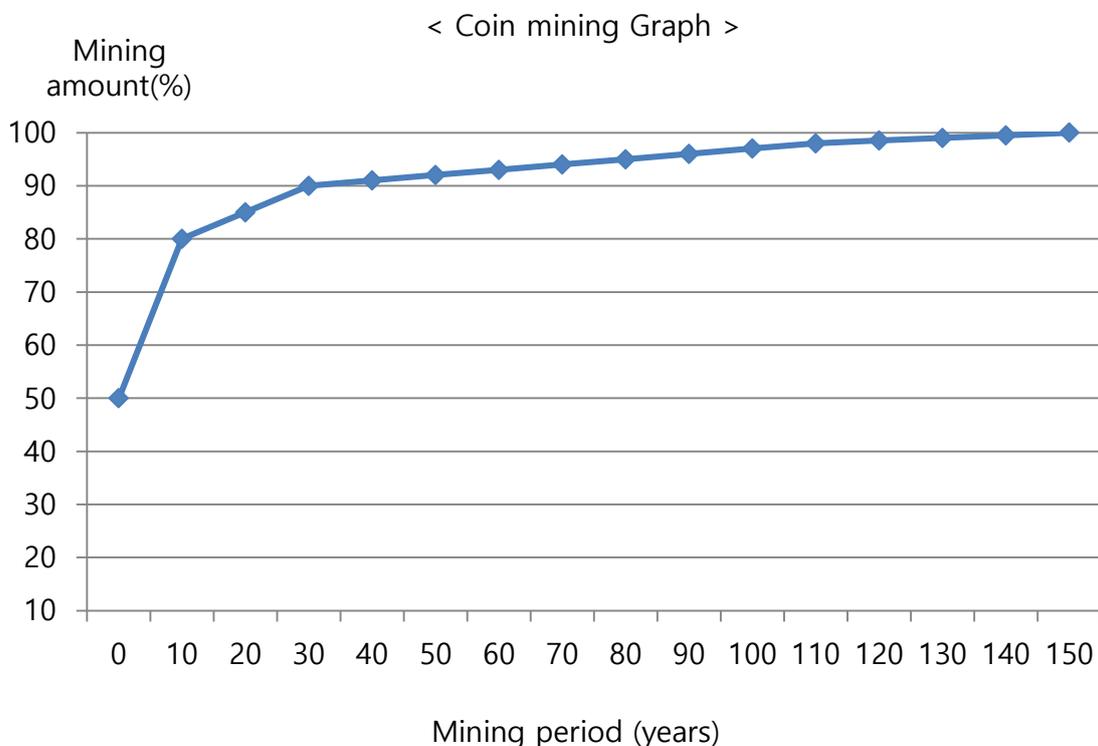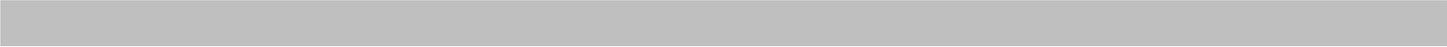
Algorithm of GOX is GS algorithm. The GS algorithm was developed in more various ways than Bitcoin, and security is improved. GS is used for the POW(Proof of Work) calculations which secure the cryptocurrency network. The mining amount will be 360,000 monthly, and the half-life will decrease by 10% every six months. While most coins, such as Bitcoin and Ethereum, have begun to be used little by little after a few years of pre-mining, GOX has to be pre-mined by the foundation as it will be used in various fields including game, audition program, internet broadcasting and others as soon as it is mined.

Many coins, such as Bitcoin and Ethereum, use the proof of work (POW). It was not designed to be used immediately upon its appearance. Since a large number of people have been mined and held for a long period of time, and the usage gradually increases over time, a proof of work method is appropriate. POW is appropriate for these coins as it is designed to be mined and be kept by large number of people and be used gradually. However, as the mining gets rarer, the reward gets smaller. So after a considerable amount of mining is done, it is converted into the POS(Proof of Stake) method. The POS gives reward like interest to the holders of virtual currency who holds certain amount of share, not to the digger.

Since our GOX is mined in large quantities in the early days, it follows the POS method. However, since the mining needs to be continued, we get to use hybrid certification method that combines POW and POS.

< Importance of total supply >

Coins with less than 10 billion gross supply are difficult to be used in real life. If 100 million people use it, at least 100 coins are needed per person.

Coinmarketcap 2018.6.2
(Price/Amount)

Amount is important

Like Stock   Real Use

$7652.10
Bitcoin
17m

$592.09
Ethereum
99m

$0.64
Ripple
39,200m

$1036.47
Bitcoin Cash
17m

$14.06
EOS
890m

G

$122.64
Litecoin
56m

Ranking

10,000m

$0.22
Cardano
25,900m

$0.3
Stellar
18,500m

$1.86
IOTA
2,700m

$56.71
NEO
65m

$0.06
TRON
65,700m

$323.31
Dash
8m

$164..49
Monero
16m

Amount

2. Definition

Block 10

Block header hash
000061tu8

Block Header

Previous block
000071ary

Merkle Root
0000beh1

Timestamp
25-01-2018 13:45:00

Difficulty
46389

Nonce
449887

Transaction

Transaction
g23ab90bh457qlo

Transaction
g2h7390fg66kt16

Block 11

Block header hash
000075df3

Previous block
000061tu8 — Hash code of previous block

Merkle Root
0000j12r3 — Hash code for all transactions

Timestamp
25-01-2018 13:50:00 — The time the block was created

Difficulty
46389 — Difficulty of the problem

Nonce
784423 — The correct answer in question

Transaction
gg67rt57df79q13u

Transaction
ghh23u8912df32yy

Block

The transactions history is permanently recorded in the network through items called blocks. A block is a record of some or all of the most recent transactions that have not yet been recorded in any prior blocks. Each block memorizes what was taken place immediately before it was created.

- Blocks consist of block headers, transaction information and other information.
- Block header consists of 6 information which are Version, Previous Block
  Hash, Merkle hash, Time, Bits, and Nonce.
- Transaction information has various information related to deposit and withdrawal
- Other information refers to the information other than block header and transaction
  information within the block, and is not used for block hash computation.

Field	Type	Description
Magic number	Unsigned int	Always 0xE5E9E8E4
Block size	Unsigned int	Number of bytes following up to end of block
Block header	Struct	Consists of 6 items
Transactions count	Variable integer	
Transactions set	Transaction[ ]	List of transactions
Header signature	Unsigned char[ ]	Signature for proof-of-stake is placed here

Block Header

The block header consists of the following six information.
1. Version : software and version of protocol
2. Previous block hash : hash of previous block in block chain
3. Merkle hash : hash value in Root when constructing transaction hash of individual transaction information as binary tree
4. Time : time of block creation
5. Bits : difficulty level
6. Nonce : calculation number which starts with the first zero and increases by 1 until it finds the satisfying hash value for the given condition

Calculation of Nonce value representing POW(Proof-of-Work)

To obtain the hash value resulting from the POW, the value can be changed without fixed value of nonce among 6 information of block. If the hash value which is calculated repeatedly by increasing the nonce value by 1 is smaller than a certain number, the block hash calculated by the nonce value at that time is determined as a hash of the block. The block that obtained the block hash is added to the new block chain and is called "POW(Proof-of-work)". The user who finds the suitable nonce at the very first is rewarded. The reward is a certain amount of newly created coin and transaction fee within the block.

Block header   Block hash

| Software version | Hash of previous block | Merkle tree hash |
| Block creation time | Difficulty of mining | Nonce 0 |

g0ff53rt97s…

| Software version | Hash of previous block | Merkle tree hash |
| Block creation time | Difficulty of mining | Nonce 1 |

00fg44it1fh…

| Software version | Hash of previous block | Merkle tree hash |
| Block creation time | Difficulty of mining | Nonce 800,375 |

00000a3th7…

The process by which a block hash obtains a nonce value that is less than a specific value

Only the nonce value can be changed among the 6 information of the block header, and the nonce value is repeatedly entered with an increment of 1 from 0 until it gets hash value smaller than the specific value.

If the specific value is "00000a4 … ", you enter a nonce value of 0, and the hash value is" g0ff53rt97s … " Since the value is greater than a certain value, POW is failed.

If you enter a nonce value of 1, and the has value is "00fg44it1fh…" Since the value is greater than a certain value, POW is failed.

If you enter a nonce value of 800,375, and the hah value is "00000a3th7…" Since the value is smaller than a certain value of "00000a4 … ", POW is succeeded.

15

Transaction

A transaction is a signed section of data that is broadcasted to the network and collected into blocks. It generally refers to previous transaction(s) and converts a certain number of GOX to one or more new public key(s). There are a few transaction types area available currently.

General format of a transaction

	Type	Description
Version	Unsigned int	Currently 1
Timestamp	Unsigned int	Transaction timestamp
Input count	Variable int	
Inputs array	TxIn[ ]	Inputs array or coinbase property
Outputs count	Transaction	
Outputs array	TxOut[ ]	Array of output Field structures
Lock time	Unsigned int	Block height or timestamp when transaction is final

Input format

The input is a reference to the output of another transaction. Multiple inputs are often listed in the transaction. The values of the referenced outputs are summed and a sum is available for the output of this transaction.

Field	Type	Description
Txid	Unsigned char [ ]	ID of previous transaction
n	Unsigned int	Number indexing an output of the to-be-consumed taransaction
ScriptSigLength	Variable int	scriptSig lenth
ScriptSig	Unsigned char [ ]	First half of script, signatyres for the scriptPubKey
nSequence	Unsigned int	Tranction variant number, irrelevant if nlockTime isn't specified. 0xffffffff by defalt, see this link for a detailed explanation.

Output format

The output includes instructions for transmitting GOX. Value is the number of Gstar (1NVC = 1,000,000 Gstar), which indicates that this output is worth the charge.

Field	Type	Description
nValue	Unsigned long int	The number of Gstar (nvc/10^6) to be transferred
ScriptPubKey Length	Variable int	ScriptPubKey Length
ScriptPubKey	Unsigned char [ ]	Second half of script, spending instructions

User operation

This transaction are typically used to exchange GOX with unspent inputs. It generally refers to unspent input(s) and creates a new output(s) with specified value and subject.

Coinbase

Coinbase have a single input, and this input has a 'coinbase' parameter instead of a scriptSig. The data in 'coinbase' can be anything; it is unused one. GOX puts the current compression form target and the arbitrary-precision 'extraNonce' number, which increments every time the Nonce field in the block header overflows. The extraNonce contributes to enlarge the domain for the proof of work function. This transactions are used to reward the Proof-of-Work miners. Proof-of-stake blocks have the coinbase transaction too, but there are empty outputs.

Coin stake

This transactions are used to provide a suitable proof for Proof-of-Stake block header. This type is similar to user transactions, but with some differences.

• First output must be empty;
• First input of this transaction is required to satisfy a current Proof-of-Stake difficulty
• It's allowed to generate new coins through paying a negative fee.
• A subject of the second output must be Pay-to-Pubkey.

3. Block Chain Transaction

When A sends money to B, transaction which transmit the money to block chain is created and the node which creates block collects this transaction and save it in the block. At this time, the verification as to whether the balance of A is sufficient or whether the transaction is not duplicated is performed separately, and the verification method changes depending on the transaction type.

Then apply the transactions to update its balance DB and propagate the blocks to other nodes. Other nodes update their balance DB according to the propagated block data and store the block. Balance DB and transaction history DB of all nodes are now updated. The fact that the book has been renewed means that the transaction is complete.
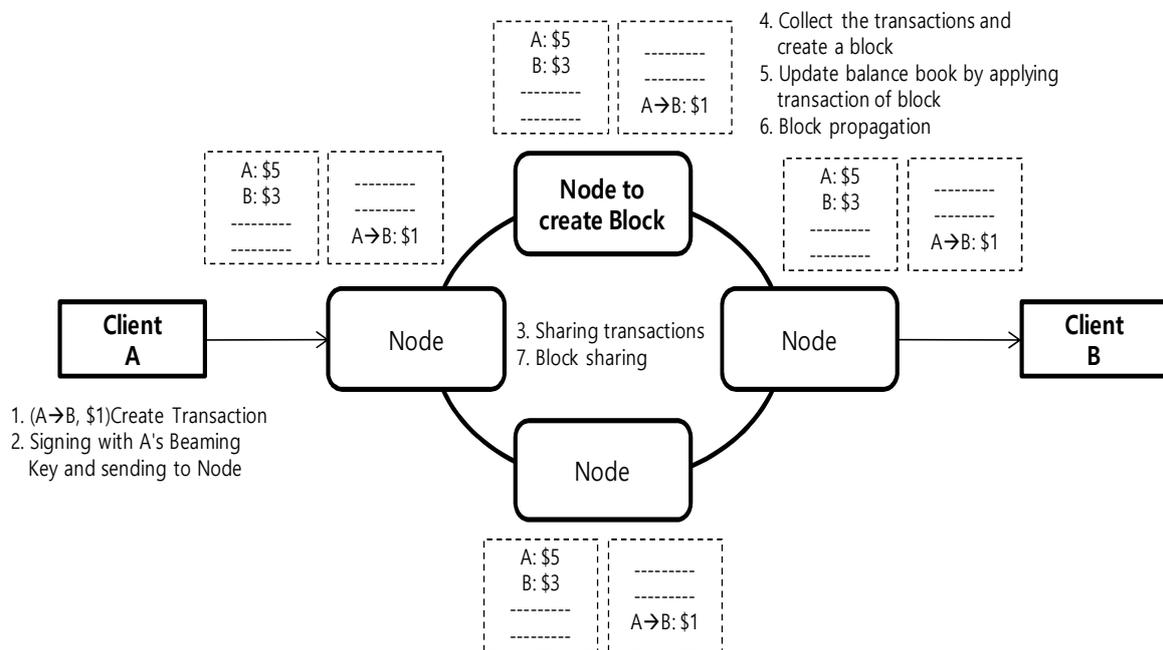
4. Node

Node keeps a history of transactions and authorizes transactions. In addition, node has two databases: a database that keeps transactions and an application database that applies stored transactions to applications. The database that keeps the transaction list has a block-chain structure. Each block has an aligned transaction list, and each block is linked in order of time.

Entire nodes on network are servers running on a P2P network, that allow peers to download updates on the events on the network. These nodes require significant amounts of traffic and other resources that carry substantial cost. As a result, a steady decrease in these nodes on network results increase time for some block duplication up to 10 minutes. In turn, this result in a very slow Bitcoin transaction acknowledgement.. This is a major problem in trading and using coins in the world of cryptocurrency.

GS is 10 times upgraded version compared to Bitcoin method. GS's ledger is updated every minute. since it is supposed to be used by many users in the real world, the node is hardly monopolized by small number of users. If someone wants to control 50% of the node network, he/she would have to buy 50% of the mined GOX in the open market. This would raise the price substantially and it would become impossible to acquire the needed GOX for monopoly.

Also, since the GOX will work in conjunction with a reliable bank, the node will not be kept unless the bank permits. The difference between the GOX and other cryptocurrencies is that GOX is actually used offline and generate demand. Nodes can provide various services to the network. By utilizing what we call proof of service, these nodes can be online, responsive and be requested at the correct block height. All work done to check the network and to prove that nodes are active are done by the node network itself.

Approximately 1% of the network checks each block. As a result, the network is checked about 6 times a day. New clients entering the GOX network must be made aware of the currently active nodes on the network to be able to utilize their services. As soon as they join the network, a command is sent to their peers asking for the known list of nodes. Each cash is used for client to record nodes and their current status, so clients can simply load this file rather than asking for the full list of nodes when they restart.

5. Payments via Mining

To ensure that each node is paid it's fair share of the block reward, the network must enforce that blocks pay the correct node. If a miner is incompliant, their blocks must be rejected by the network. Otherwise cheating will be occurred. When mining is happening on the network, software use the RPC API interface to get information about the block making method.
.

Proof-of-Stake

Proof-of-Stake is term referring to the use of currency itself (ownership) to achieve certain goals. GOX Proof-of-Stake is used to process transaction and mining equivalent to that of POW(Proof-of-Work). GOX uses coin-Age/coin-Day Weight approach to provide proofs of the stake. The Proof-of-Stake difficulty is adjusted so as to limit the rate at which new blocks can be generated by the network to regular target spacing rate. Due to the very low probability of successful proof generation, this makes it unpredictable which computer in the network will be able to generate the next solution.

How does it work?

It's performed through scanning all available inputs in order to find lucky one that satisfies following condition:

SHA256(SHA256(KERNEL)) < coinDay Weight * Network Target

Miner has to find a SHA256 hash that is under the target value. Target is derived from network target using coinDay Weight parameter.

The proof is presented by kernel hash and header signature. Each kernel is represented by structure of 6 fields, and some of this fields could be varied freely.

When can user start generating Proof-of-Stake blocks?

If user have his/her balance, then GOX would automatically try to generate proof hashes for user. If user finds a stake, the reward is calculated using current Proof-of-Stake difficulty and coin-Age amount consumed. The reward amount is added to user's stake amount and is shown together in the stake field of 'get information' output.

What about rewards?

Block reward is based on coin-Age parameter and Proof-of-Stake difficulty. A reward can be calculated using formula.

nProof Reward = min(10, coinAge * (0.03125 / difficulty) ^ (1 / 3) * 33 / (365 * 33 + 8))

In other words, a reward is limited to 10 coins, and cut into half per every 8-fold difficulty per coin-year starts from 1 coin.

Proof-of-Work

GOX uses the hashcash method to provide proofs of the work. The difficulty of this work is adjusted so as to limit the rate at which new blocks can be generated by the network to required target spacing rate (from 10 to 30 minutes). Due to the very low probability of successful proof generation, this makes it unpredictable which worker computer in the network will be able to generate the next solution.

How does it work?

Each block header represented by structure of 6 fields. Some of this fields could be varied freely. The hashing result of a valid Proof-of-Work value must be lower than current target. Miner tries to find this suitable solution by scanning all possible nonce values (from 0 to UINT_MAX). In case of overflow the new coin-based transaction will be created. This allows miner to replace a hash value of new merkle tree with a new one and start nonce scanning from zero again. Time stamp adjustment is also possible.

```
                    ┌──────────────────┐
                    │     TOP Hash     │
                    │  (Merkle root)   │
                    └──────────────────┘
                     │                │
              ┌──────────┐      ┌──────────┐
              │   Hash   │      │   Hash   │
              │    0     │      │    1     │
              └──────────┘      └──────────┘
               │       │         │       │
          ┌───────┐ ┌───────┐ ┌───────┐ ┌───────┐
          │ Hash  │ │ Hash  │ │ Hash  │ │ Hash  │
          │ 0-0   │ │ 0-1   │ │ 1-0   │ │ 1-1   │
          └───────┘ └───────┘ └───────┘ └───────┘
              ↑         ↑         ↑         ↑
          ┌───────┐ ┌───────┐ ┌───────┐ ┌───────┐
          │ Data  │ │ Data  │ │ Data  │ │ Data  │
          │ Block │ │ Block │ │ Block │ │ Block │
          │   A   │ │   B   │ │   C   │ │   D   │
          └───────┘ └───────┘ └───────┘ └───────┘
```
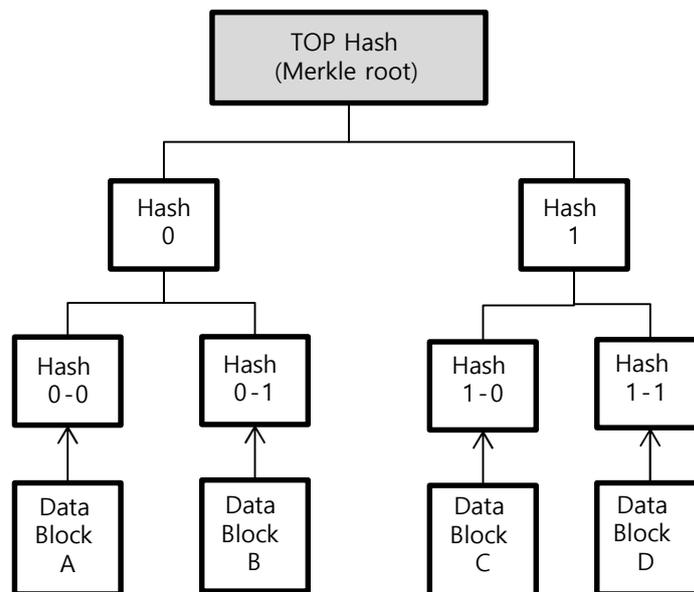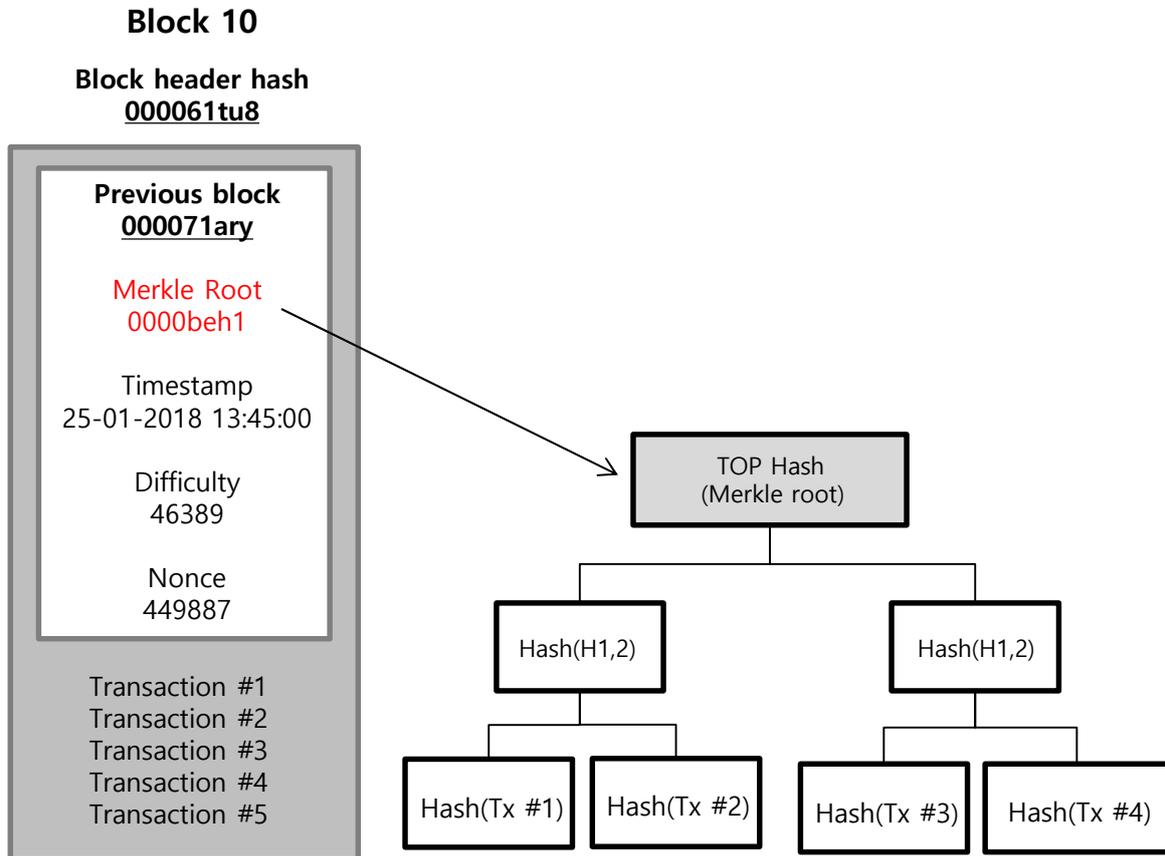
What is Merkle Tree?

Merkle trees are constructed as above. Leaf nodes are hash values of a data block (a set of files or files), and each node represents a hash value of the subordination. The top of the superior nodes is called top hash (root hash or master hash). After hashing each attribute to create a binary tree, use top hash to verify the message. The verification method using the hash tree is called Tree Authentication.
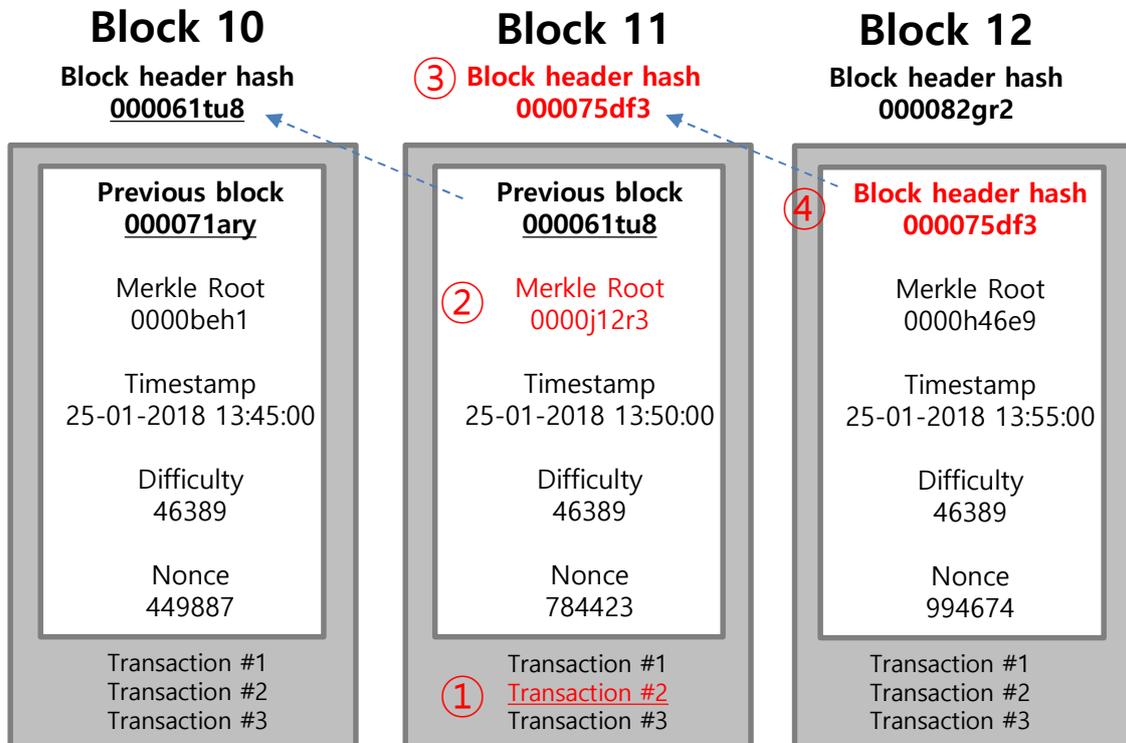
6. Block chain for transaction verification

Block 10

Block header hash
000061tu8

Previous block
000071ary

Merkle Root
0000beh1

Timestamp
25-01-2018 13:45:00

Difficulty
46389

Nonce
449887

Transaction #1
Transaction #2
Transaction #3
Transaction #4
Transaction #5

TOP Hash
(Merkle root)

Hash(H1,2)

Hash(H1,2)

Hash(Tx #1)

Hash(Tx #2)

Hash(Tx #3)

Hash(Tx #4)

The value of Merkle Hash (Merkle Tree) is the hash tree of the transaction. The hash value of transaction 1 (Tx #1) and the hash value of transaction 2 (Tx #2) are added to calculate the upper hash value (H 1,2). The hash value of transaction 3 (Tx #3) and the hash value of transaction 4 (Tx #4) are added to calculate the upper hash value (H 1,2). The result of these two hashes is added again, and the hash value of the upper one is generated. This is repeated, and the TOP hash value becomes the value of Merkle Hash.

The integrity of the transaction can be verified through the value of Merkle Hash in the block, and the integrity of the header value can be verified through the block Hash value. In particular, since the hash value is generated by including the Merkle Hash value in the block hash, the integrity of the transaction can also be verified.

7. Block chain for prevention of counterfeiting/tampering

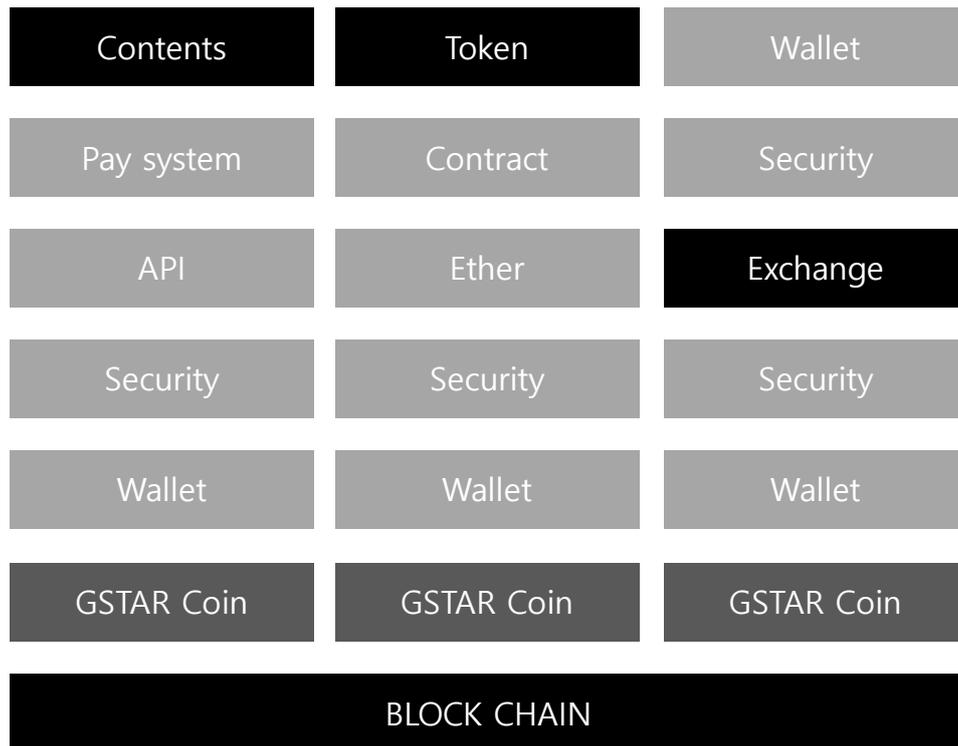| **Block 10**	**Block 11**	**Block 12**
Block header hash **000061tu8**	③ **Block header hash** **000075df3**	**Block header hash** **000082gr2**
Previous block **000071ary**	**Previous block** **000061tu8**	④ **Block header hash** **000075df3**
Merkle Root 0000beh1	② Merkle Root 0000j12r3	Merkle Root 0000h46e9
Timestamp 25-01-2018 13:45:00	Timestamp 25-01-2018 13:50:00	Timestamp 25-01-2018 13:55:00
Difficulty 46389	Difficulty 46389	Difficulty 46389
Nonce 449887	Nonce 784423	Nonce 994674
Transaction #1 Transaction #2 Transaction #3	Transaction #1 ① Transaction #2 Transaction #3	Transaction #1 Transaction #2 Transaction #3

Suppose some malicious user modifies a particular transaction. A malicious user modifies ①the second transaction in block 11. In such a case, ②the value of the Merkle Hash, which creates the Hash Tree with the input value of the transactions, and ③the value of the Block Hash(Block Header Hash) is also mismatched. Of course, ④ the value of Previous Block Hash of the next block connected by the value of block hash is also mismatched.

.

If one attempts to modify a particular transaction, he/she must also alter the value of Merkle Hash and the Block Hash. Merkle Hash can be calculated by using a modified transaction, but it is not easy to create a block hash. This is because of an item called Nonce which is used as an input value of the block Hash.

The value of block hash is required to generate a block, it is impossible to calculate the input value(including Nonce) of the Hash output value due to one-way characteristic of the function. To create a nonce to correspond to the value of specific hash result when creating a block, a brute force cracking of 2^{256} is needed for SHA256. This is almost impossible with current computers.
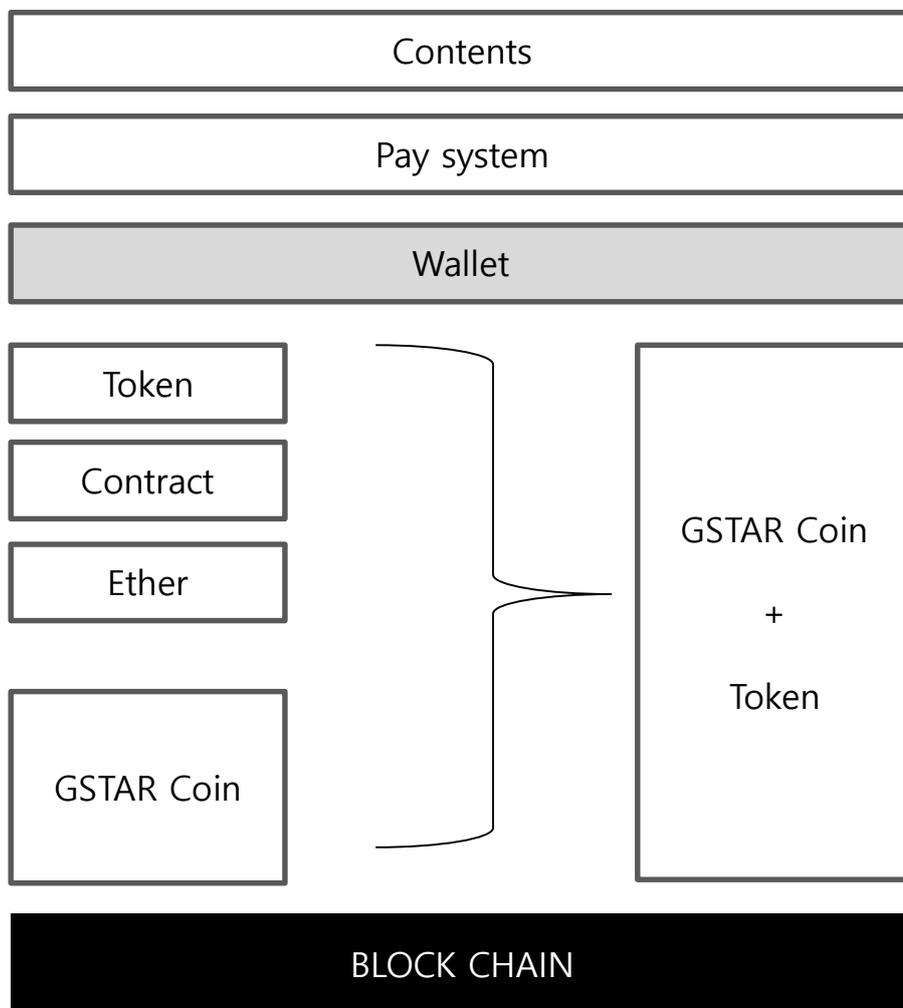
8. GOX System Structure

GOX is building a system that can issue coins and tokens based on block chain and make them to be used in real world. Refer to the following for GOX system structure.

Contents	Token	Wallet
Pay system	Contract	Security
API	Ether	Exchange
Security	Security	Security
Wallet	Wallet	Wallet
GSTAR Coin	GSTAR Coin	GSTAR Coin

BLOCK CHAIN

9. GOX Technology Development

GOX started with an aim of applying the concepts of Coin and Token in real life.
GOX has created coin for public use by reducing the fee and transmission cost, which is a disadvantage of the existing Ethereums.
In addition, it has built the system that can process thousands and tens of thousands transactions per second by reducing the transaction time by adopting 'coin + token' concept to Token system which requires a long time for transaction.

```
┌─────────────────────────────────────────────┐
│                   Contents                    │
└─────────────────────────────────────────────┘
┌─────────────────────────────────────────────┐
│                  Pay system                   │
└─────────────────────────────────────────────┘
┌─────────────────────────────────────────────┐
│                    Wallet                     │
└─────────────────────────────────────────────┘
┌──────────────┐                  ┌──────────────┐
│    Token     │                  │              │
└──────────────┘                  │  GSTAR Coin  │
┌──────────────┐                  │      +       │
│   Contract   │                  │    Token     │
└──────────────┘                  │              │
┌──────────────┐                  │              │
│    Ether     │                  │              │
└──────────────┘                  │              │
┌──────────────┐                  │              │
│  GSTAR Coin  │                  │              │
└──────────────┘                  └──────────────┘
┌─────────────────────────────────────────────┐
│                 BLOCK CHAIN                   │
└─────────────────────────────────────────────┘
```

10. Concept of Mobile Mining

Conventional mining is a PC type mining machine such as GPU or CPU. These PC-type mining machines take up a lot of space and consume lots of electricity. Almost all mining machines in Cryptocurrency are similar. Recently, there are many cases of mining machine that uses agricultural electricity or industrial electric power, and governments are coming up with measures against this. Some mining companies run the mining machine entrusted by the investors, and in reality, it operates less than the promised mining machine quantity. n addition, the price of mining machines is also on the rise, making it difficult for small investors to buy mining machines.

For this reason, the mining machine market now are in the need of a new business model. The appearance of the mining machine was intended to allow many people to use cryptocurrencies. Now it is time to develop a mining machine using a mobile phone which allows an ease access for everyone. Mining method of connecting hardware mining machine to mobile phone is inefficient because mining quantity is small.

We have developed a software mining machine and applied it to mobile phones. Anyone in the world will be able to have cryptocurrency with a mobile phone at low cost by using our program. Since mobile mining does not need a separate space, it does not need to be entrusted and consumes less electric power. Mobile mining can be done and can confirm mining status anytime and anywhere .

The mobile mining machine will be the key to opening the era of cryptocurrency that everyone truly desires.

11. Improved Privacy and security from Hacking

GS was developed in order to overcome some significant drawbacks associated with previously used Cryptocurrency mining algorithms such as SHA-256(example; Bitcoin) or Scrypt (example; Litecoin, Dogecoin). GS is the name of the hashing algorithm used to calculate the proof of work protecting some cryptographic networks.

GS algorithm offers a high level of security that can stand up to brute force attacks. As transaction can be formed by multiple parties and all transactions are designed to pay by the users, the system is highly secured against theft, thereby makes cryptocurrencies to remain safe.

12. Benefits for the mining and electric power

GS is a widely used hashing algorithm known as algorithm chaining. The early Bitcoin miners used CPU as their mining machine, but changed to GPU shortly after the introduction of GPU. Years after the GPUs cycle, ASICs or Application Specific Integrated Circuits was created, and ASICs are now replacing GPUs quickly.

It is anticipated that GOX mining time will be considerably longer than that of Bitcoin, as GOX requires more complex ASIC design and bigger LSI semiconductor chip to mine GS. 'Centralizing mining', which weakens network security, naturally reduces the number of miners who support GOX, which can increase the probability for immediate mining when large operators need to cover costs and take profits.

By designing the GS algorithm to be suitable for use with a general-purpose CPU processor and by circulating various algorithms instead of using a single algorithm, it made difficult for manufacturers to develop ASICs. Although ASICs may someday be produced, the GS series coin is expected to maintain ASIC tolerance, at least in the short and medium term

Ⅲ. Application and Function of GOX

Gstar was developed for the purpose of applying to the Creative Industry.

We bring the various sectors (communities) of the real-world Creative Industry into the mobile phone and structure the GOX's ecosystem that connects to GOX. Each community moves independently and connects to GOX at the same time. As GOX ecosystem gets expanded with newly added communities, its use will be widened not just in mobile game, audition program, internet broadcasting to cross-border donations, lotteries, online casino game, tourism and fund raising sectors.

1. on Web-based mobile games

GOX can be used in online games. Recently, the online game market is getting bigger in the mobile game market than PC one, and all of the current mobile games should download the application to execute. Therefore, games are not available immediately in countries where Google or Apple's app store is not operating. We have the technology to play mobile games without visiting these app stores.

As this platform supports the various games running on the web independently of Google or Apple, it not only saves the fees but also allows game services to be available in the Chinese market, which is not familiar with Google.

We combine this mobile game with block-chain technology to launch a mining game. Beyond using GOX as a game money or reward, you will see many people mining while playing games on their mobile phones sitting on the subway or at the desk.

We will be launching games that can be implemented in every country by using GOX, which will impact the global mobile game market.

2. On large scale audition program

We will be running a mobile lotto. Local or worldwide people can participate. It is a way to get many users to participate in the blockchain ecosystem on mobile or in a short time. We want to quickly activate the blockchain through the lotto system. Our lotto system allows the poor or the rich to participate equally. The lotto system is a practical business model. Almost all cryptocurrencies aren't actually doing business. We want to apply blockchain technology to practical business models. The activation of the lotto system is the activation of the blockchain ecosystem. We live in a surreal society where the world is connected as one. Digital currency is essential in this world. Now, the technology of the blockchain is the core of the digital currency.

3. On internet broadcasting

Internet broadcasting has become a new trend. Many internet broadcasters have become stars and they have hundreds of millions of fixed fans. As a relationship between a star and a fan, fans often give gifts to their favorite BJ in a variety of ways. Many problem occurs when BJs cash out the gifts they receive through their managing companies. This is because the managing companies sometimes do some tricks in the middle.

We are planning to build a new internet broadcasting ecosystem using GOX. By applying GOX to internet broadcasting, viewers will be assured that their gifts will be transmitted to BJ safely, and BJ will be able to steadily immerse in the program, which will further stimulate the internet broadcasting industry.

4. On online casino games

In most countries, the casino industry (including online casino business) is an industry that must be legally licensed by the government. Each government wants to look closely at the sales and revenues of casino businesses for tax purposes even after the licensing. However, as casino companies make efforts to reduce or avoid taxes, it is difficult for government to obtain accurate taxation data.

As a way of solving this, government can think of assigning a specific cryptocurrency as a coin to be used for online casino games. Taxes can be secured with transparency, and casino funds can be legalized as well. This is a way to further revitalize the casino industry by lowering the barriers of acquiring license by the government. GOX can solve the troubles of each government.

5. On entertainment business, lotteries and donations

Existing cultural performance tickets are purchased through the internet. Naturally, performances of a particular country can only be purchased with the currency of that currency. Cryptocurrency will make it easier for people around the world to buy tickets.

Lottery is the same. Still, lottery tickets must be purchased in line at off-line stores. However, if purchase of lottery tickets become available on the internet, one can purchase lottery tickets anytime, anywhere, and the sales and revenue will increase accordingly.
People who donate heartily often do not reveal their name or identity. GOX enables anonymous donations to anywhere in the world. Since the anonymous donation is possible regardless of the amount, it will encourage more people to participate.

6. On cultural industries

Traveling foreign countries using public transportation is very uncomfortable for foreign tourists. Foreign tourists often do not know the price and route of subway, and the ticket only can be purchased by the currency of the country. We can use this mobile phone to unify the global transportation costs with GOX. With GOX, one can charge bills regardless of countries and tourists can travel anywhere without worrying about the charge. Only the will of the state is needed. It will be possible to purchase household goods at convenience stores with GOX besides public transportation.

7. Apply to investment fund-raising for SMEs

Cryptocurrency makes new business items or business investments to be done in efficient way. GOX can be linked to good business items for fund raising. This fund raising enables investment and cash collection beyond the national barriers. GOX is also expected to create the investment brokerage industry through this system.

GOX will be partnered with an Asian company with advanced biotechnology and will be used to raise funds needed for production. The company has already begun consulting with a local governor to establish investments and factories. GOX will be used as a way of investment in many companies. We anticipate that this new investment system will become a new investment trend in the rapidly changing 4th industrial society.

8. Apply to interpersonal and international trade

The GOX is designed to handle small transactions that occur frequently, with a minimum fee. Therefore, it can be easily used for interpersonal transactions, international e-commerce (foreign direct purchase), and small-scale trade transactions that occur frequently.

9. Apply to Escrow

In the modern business world, Escrow is often used by lawyers or legal representatives to ensure the safety of transactions. However, since escrow is costly, it is difficult to use it for interpersonal transactions.

GOX allows you to safely use escrow service at a minimal cost with one mouse click and without legal process. If the customer chooses escrow service, the GOX is on the escrow ledger, and another customer will not be paid until the promised obligation between the two is fully fulfilled. Since escrow is available in small amounts, anyone will be able to take advantage of these features to contribute to the invigoration of non-face-to-face transactions.
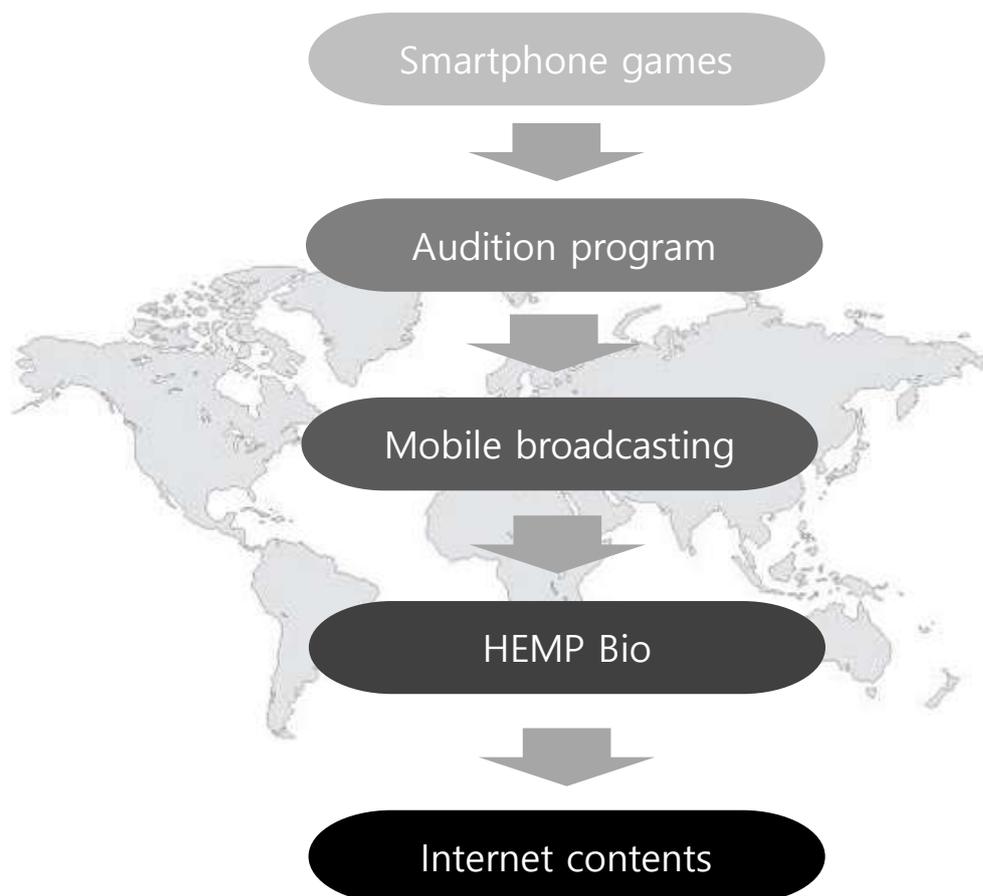
10. Smart contract

Block chain technology can be applied to many places. Smart contract emerged as an issue in recent financial transactions and IOT sectors. We intend to enter the smart contract market using our block chain technology.

A smart contract is a transaction that is settled automatically on online between if the conditions set by trading partners are met. However, the block chain technology is not just for automated transactions. The technique of block chaining can be used to prevent counterfeiting and to guarantee anonymity. It can be applied to various sectors such as inter-company transactions, interpersonal transactions, official documents, military purposes requiring confidentiality, or authentication of public institutions. Block-chain technology will be applied in more places than we think. GOX is intend to be part of that.
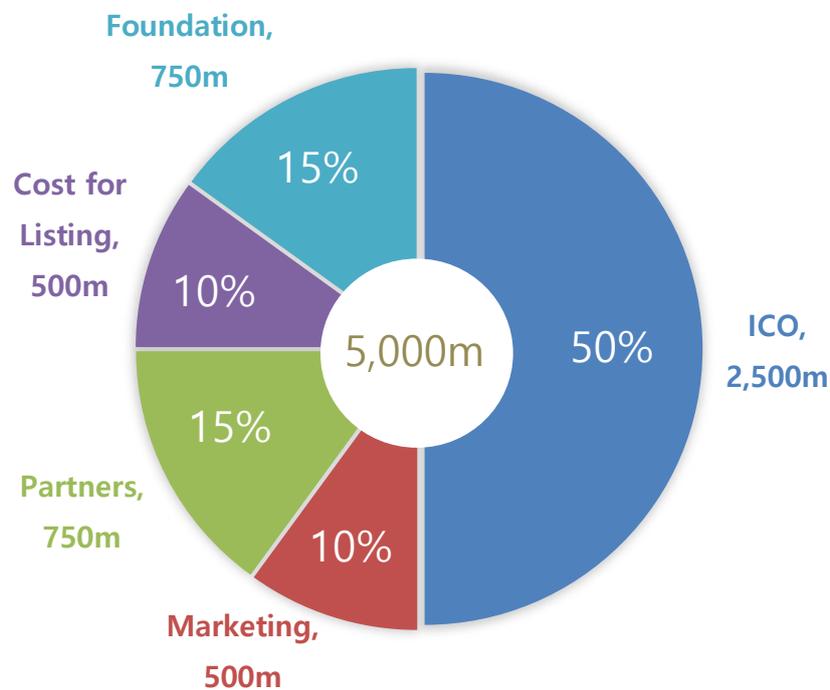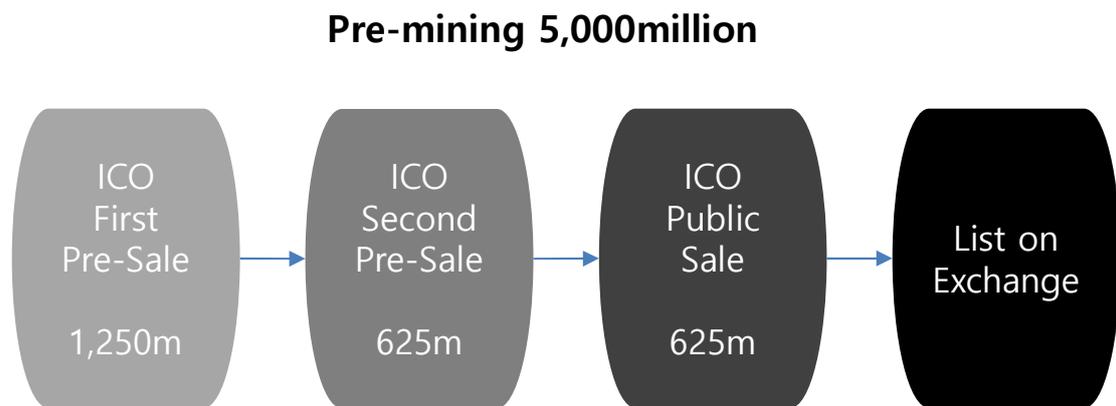
IV. Business Implementation Plan

1. Business Implementation Plan

GOX business will be applied first in games and entertainment. GOX business will be applied first in games and entertainment. GOX is planning to secure the users of GOX by launching smartphone games and audition program for singers in entertainment sector. Furthermore, it has plans to expand its business into internet broadcasting. In addition, it will be applied to internet contents and various cultural and tourism business models.

```
Smartphone games
        ↓
Audition program
        ↓
Mobile broadcasting
        ↓
HEMP Bio
        ↓
Internet contents
```

2. Gstar Distribution Plan

Gstar will be implemented with the following plan.

Pre-mining 5,000million

| ICO First Pre-Sale 1,250m | → | ICO Second Pre-Sale 625m | → | ICO Public Sale 625m | → | List on Exchange |

Foundation, 750m — 15%

Cost for Listing, 500m — 10%

Partners, 750m — 15%

Marketing, 500m — 10%

ICO, 2,500m — 50%

5,000m

* Above plan is subject to change depending on the situation.

3. Business Community

Gstar is not going to be a single item for individual companies. Gstar has a plan to invite numerous companies from all over the world will work together to develop various business models. Our foundation will provide pre-mined 50% of Gstar to the market, and the remaining 50% will be supplied through mobile mining machine when the business model stabilizes. Gstar's supply will be flexible so as not to disturb the market.

Game

50%

Mobile
Contents

10%

Escrow

10
%

Pay

10%

TOTAL OFFERING
5billion

Trade

10%

Others

12%

* Above plan is subject to change depending on the situation.

Ⅴ. Conclusion

Future society will be led by big data, artificial intelligence and IOT, and will be a society where rapid change and development coexist. In that society, information security and transaction speed are very important values. In this era, block chains and cryptocurrency techniques will be developed and applied in various ways.

Gstar was developed for the purpose of applying to the Creative Industry. The use of Gstar can be broadly applied from entertainment industry starting with mobile games audition program for broadcasting, cross-border donation activities, lottery tickets, and online casino games to tourism.

We define some parts of the cultural industry in the real world as the GOX community, and bring them into the mobile phone to structure GOX's ecosystem that links to the GOX. The GOX will flow through the ecosystem that we have constructed and will play a role in linking the GOX ecosystem within the community, between the communities, and with the real world.

GOX will be the first to be applied to web-based mobile games. Mobile gamers will enjoy a special game that combines block-chain technology, which allows mining in mobile games, regardless of time and place (country) without logging into Google or Apple's store services.

The GOX will be used for a large audition program involving more than three million people including applicants, their friends and family. This smart audition program, which combines mobile phone and SNS Youtube, will promote GOX and secure long-term users.

GOX will be applied to Internet broadcasts involving a large number of people as a one-person media. Internet broadcasting viewers give their favorite BJ a paid gift, but GOX will replace it. This payment method will be done across national borders and will contribute to building a new Internet broadcasting ecosystem.

We will announce three communities of games, audition programs, and internet broadcasting in sequence and organize them into one GOX Ecosystem. Each community moves independently and connects to GOX at the same time. Various communities will be added to the GOX ecosystem, including donations, lotteries, tourism, and fund raising. Each community develops itself and expands the ecosystem by interconnecting simultaneously.

GOX is the cryptocurrency of GS algorithm based on the block chain. The total amount that can be mined fluctuates according to market demand. The GOX is more secure than Bitcoin or Dash, and the block chain ledger update rate is very fast, at 1 minute. The transaction speed of GOX will be only a few seconds in early days.

We may issue additional tokens for extensive use of GOX. The issuance of tokens is a means of assisting the use of the GOX. We are also planning various revenue models for GOX owners.

Now, the age of cryptocurrency as technical value is over. We have entered an era where the issue of where and how widely cryptocurrencies are used is more important. Only the cryptocurrency actually used has become meaningful and valuable. In this regard, the GOX will have a high value as a cryptocurrency widely used in culture and tourism sectors.

Notice

About Gstar(GOX) Whitepaper

Gstar is Cryptocurrency which is being conducted by professionals from various countries including Korea, Australia, Japan, and Singapore. Unlike other Cryptocurrency, Gstar has business models that can be executed immediately. As with other commodities traded in the market, if the currency is not used in real transactions in the market, the meaning of existence is reduced. From this point of view, Gstar will be widely used in the market and will have explosive results. The Gstar white paper is written with actual business applications in mind. Therefore, as the project progresses, upgraded versions will be issued and it will be posted and uploaded via the website www.gstarcoin.info. I hope you will always visit the website with interest.

About investment

Cryptocurrency is now in the early stage of development. Many registered cryptocurrencies that trade 24 hours a day at the International Exchange have a greater fluctuation rate than stocks. Block chain technology and cryptocurrency transaction market conditions are also varying. Investors in cryptocurrency should take the stance of investing in venture businesses that high returns and high risk coexist. Business plans will be mostly implemented, but there may be some variation depending on the situation. So always keep an eye on the cryptocurrency market situation and Gstar's website.

Whitepaper Version
V1.1 : 05.06.2018 / V1.2 09.11.2018