Gbrick

Play over the chain!

Version : 1.00

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- ✓ **Read the entire white book prior to an investment.**
- ✓ **Acknowledge the high risk of content predicting the future.**

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Definition of terms

gbrick	Ultrahigh-speed blockchain network for rapid service
GBIS	System that calculates incentives on gbrick network
GBX	Unit of coin on gbrick
GEE	Minimum unit of gbrick coin; 10^18 gee = 1 GBX
GLOGIC	Language used to write smart contract of gbrick
LLFC	Consensus algorithm of gbrick, leaderless fast consensus
WAGON	Container that loads and executes bytecode of glogic, the smart-contract language of gbrick
GCAP	API provided in gbrick and capsule containing information such as payments
GBIF	gbrick Investment Fund
$	USD

1. Overview

“This white book is a legal document related to the ICO of gbrick, which has been opened to the general public.”

The gbrick Platform, a project our company is aiming to implement, is a gaming platform based on ultrahigh-speed blockchain for fast services.

The gbrick Platform may accept all gaming platforms that actively utilize user networks formed through various social network services such as Facebook, Twitter, Kakao Talk, and Line, as well as personal connections made on Internet services including Google, Naver, and Daum.

gbrick refers to an advanced platform that can be speedily and conveniently used for all types of gaming from social networking games to simple text games in the process of formation of personal connections in the online environment through gaming.

Our purpose is to develop and operate a gaming platform based on blockchain through which such social networking gaming can be managed and distributed.

Once game providers register their games on the particular platform, the gbrick Platform organizes the information of the game users into big data on its network to provide as various statistical data. Also, most of the profits generated through the games are returned to the game providers (developers or suppliers).

Also, a user may create a game according to the games platform registered by a game supplier and, through this, encouragement of user participation and redistribution of coins are carried out based on various results of the games.

gbrick can be used with a variety of different games, and we establish network gaming capable of two-way interactions as well as an ecosystem that can regenerate and produce such games, thus providing the majority of the total profits back to the providers of the games.

Moreover, a provider may offer services in various forms within the game, and through the quick and easy gbrick Platform, it also works with a structure where profits are distributed to the participants as well. For growth and maintenance of the gbrick ecosystem, we are also planning a project to discover and support promising GPs (Game Providers).
gbrick is a differentiated platform without fees that will develop alongside its customers.

Types of currency in the gbrick ecosystem are gbrick coin and gbrick token. gbrick tokens are a type of coin that is sold during the periods of Private Presale, Public Presale, and Public Sale.

“Games within the gbrick Platform refer to all games including general games as well as differentiated, war-type games through interactions.”

“gbrick is a blockchain-based gaming platform equipped with a practical compensation system. In gbrick, a game provider receives a full return on all of the value that he/she has created.”

“Any one of the questions in this world may become a game, which is in turn shared and executed through a personal network."

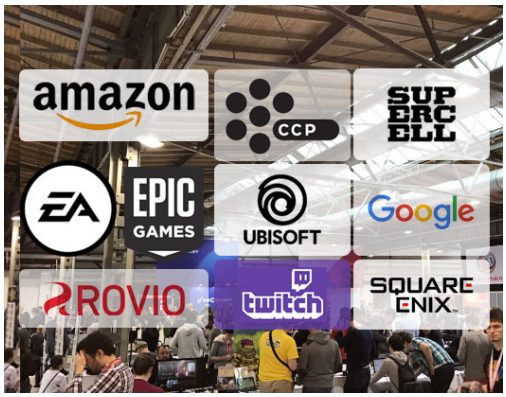
2. Background

The gaming industry in 2017 recorded a growth index of 42.2% thanks to the rapid growth of the mobile gaming market. The reasons for such a fast rise of the mobile gaming market were the blooming of mobile MMORPG that retains high ARPU due to the unique characteristics of the genre, as well as release of blockbuster games. However, this growth of only certain games, not the entire gaming market, is expected to cause the market to slow in development during 2018.

From February 7 through 9 last year, “CasualConnectEurope” was held in Berlin, Germany, an event with more than 400 lectures sharing ideas and knowledge, showcasing games and networking among game developers and investors worldwide.

.Established by the Casual Gaming Association in 2005, “CasualConnect” takes place four times a year in different continents such as North America, Asia, and Europe, and has settled as a place to share know-how and information in development of casual games.

.The event focused on innovative VirtualReality (the “VR”), mobile games, e-sports, social casino games, and many more, and also conducted discussions on the establishment of global game brands and game designs.



. Many world-renowned gaming companies participated at “CasualConnectEurope” including Amazon, CCP Games, Electronic Arts, Epic Games, Facebook, Google, King, Rovio, Square Enix, Supercell, Twitch, and Ubisoft.

As shown above, the current gaming market has a difficult structure for small development companies and individual developers to enter, despite a great level of interest from companies in the gaming market. Also, blockbuster games that have consumed much time and cost of development dominate most of the profits generated in the market, which makes it especially difficult for small companies or individuals to make an entry into the market.

- **Difficulties for small game developers to enter the market**

The source of income for most individuals or small game developers is advertising, and the games are typically distributed through app stores or social network platforms.

The game money or points within platforms have the disadvantage of lacking interactive compatibility along with several other issues from the standpoint of game users. We believe that not being able to use points generated in a specific game in other games or platforms is an important issue.

- **Irrational compensation for development and supply of games**

Compensation for the profits generated in games for small development companies or individual developers mostly rely on profit distribution or advertisements of large platform planning firms, and game providers are often on the wrong end of irrational compensations, able to claim only a portion of the income as their profits.

In an attempt to do away with such a centralized structure, we aim to provide a platform and environment for profits to go to all individuals and developers.
The global gaming market is predicted to experience a slow growth in the future. In contrast, expenditure in advertising is on the rise, leading to the judgement that profitability will worsen.
Also, while the number of people signing up on large social networks has increased, their profitability is on the decline, and development companies and users that utilize such platforms do not receive proper compensation for their entry into the market and distribution of profits.

We focused on this market, and aim to create an innovative gaming platform of a new paradigm. For instance, we wish to make a blockchain-based platform with guaranteed reliability for anyone to easily create or participate in games.

Also, by making a system that uses virtual currency as the game money, a type of coin that may be commonly used in all games is to be created through gbrick gaming platform.

Subsequently, we desire to propose gaming of a new paradigm and to form an ecosystem through the network of game providers and users.

3. The gbrick ecosystem

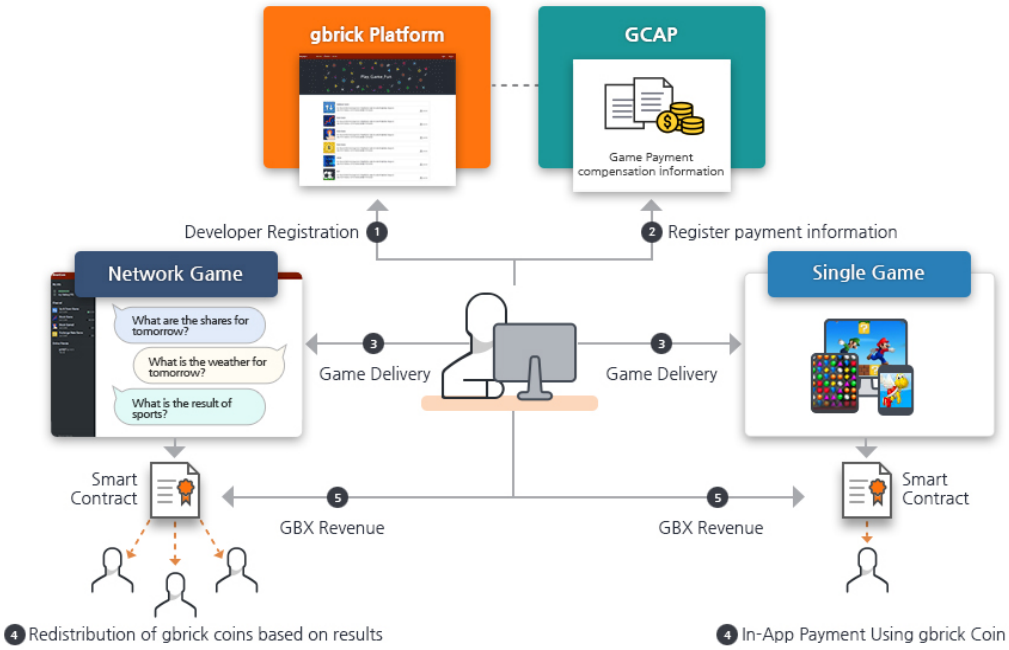
3.1 Overview

The gbrick ecosystem aims to create an environment where anyone can participate in various types of games created by game providers (developers or suppliers) by utilizing the shared networks of users.

3.2 Participants in ecosystem

The ecosystem will be established in an expandable distribution method that, in the long term, guarantees stability, reliability, and sustainability with fast processing capability.
Participants of this ecosystem are as follows.

- ✓ Platform
- ✓ User
- ✓ Game provider (developer/supplier)



[Figure 1] Flowchart for ecosystem participants

- **Role of platform**

Once a game provider or developer signs up on the platform, the gbrick Platform offers SDK and API that can be linked to the platform and manages services for launched games. Users are also managed on the platform, and payment via gbrick

coins as well as creation of and participation in games are easily controlled. In addition, gbrick coins used in games are created and managed while providing payment history and various big data information.

- ✓ Provide ultrahigh-speed blockchain technology for fast game service
- ✓ Release gbrick coin used in gaming
- ✓ Provide SDK and API for development and expanded support
- ✓ Support a distributed, impartial, and safe blockchain model for fairness in gaming
- ✓ Compensation system for implementation of payments, events, and compensation processing
- ✓ Support web portal and interface for GP administrators
- ✓ Support an effective incentive model for gbrick ecosystem participants
- ✓ gbrick coin redistribution system depending on the results of gaming

• Role of game provider and developer

Game providers and developers sign up on the gbrick Platform, and through the SDK and API provided by the platform, game GCAPs are created, added to the games, and registered and managed on the platform. Users who play the games sign smart contracts based on GCAP and receive redistributed gbrick coins depending on the results.

- ✓ Planning and developing games
- ✓ Creating and managing games
- ✓ Operating and managing game portals

• Role of user?

Users can participate in various games launched on gbrick Platform, and can also apply for a new type of battles on the gaming platform or participate in the games.

- ✓ Purchasing gbrick coin in games
- ✓ Participating and making payments in games
- ✓ Creating and sharing games

3.3 Blockchain and smart contracts

Blockchain is a shared database technology typically applied to virtual currency, but by upgrading it one step further, forming and developing a differentiated smart contract

to be utilized within games, we have strengthened the contractual trust between game providers and users.

There are two types of contract within our platform. First is the smart contract, through which coins are purchased and sold, and the second is a contract for coins used within games; both are directly encoded, internally implemented contracts. Codes and contracts included here exist through the disperse blockchain network.

- **Multi smart contract structure within platform**

The blockchain and smart contract that we devise provide a next-generation multi-structured framework for participation in verified transactions according to various games and rules of payment.

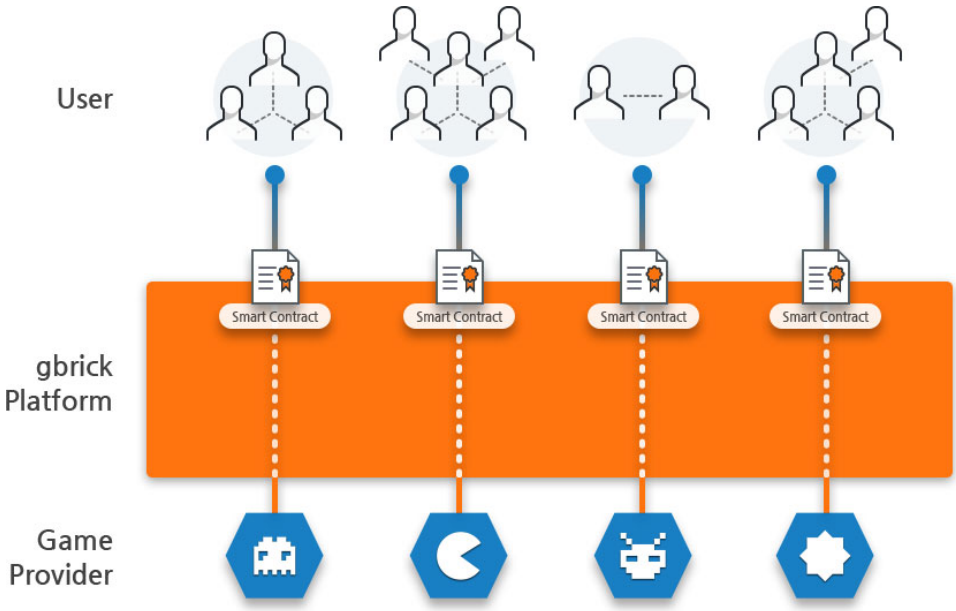
By introducing the multi smart contract to gaming, smart contracts are newly created and managed every time a game is generated, thus securing reliability in contract between the game and its participants.

A smart contract allows the execution of reliable transactions and contracts among anonymous individuals even without a forced external mechanism. In this way transactions are tracked, become transparent, and cannot be falsified.

The market potential for the gbrick ecosystem lies in its millions to billions of users, each of whom makes several dozen transactions each day. The main focus is on execution, and we seek the support of a system that enables quick processing to process tens of thousands of smart contracts a day as well as predictability, stability, and user convenience. We plan to use and enhance the most verified and expandable open source technology and continue to monitor the emergence of substitute technology.

To satisfy the ecosystem as described above, we are currently designing and developing an internal gbrick blockchain platform, and have reviewed and tested the third-generation blockchain's Consensus technology, which has already been made public. We are also developing and testing the Leaderless Next Block Selection agreement algorithm for our goal of high-speed parallel processing.

This structure is the most suitable for gbrick's dispersion-type ecosystem, and supports the most stable and reliable service platform for everyone who participates in the ecosystem.



[Figure 2] Multi smart contract

- **Payment**

The online payment process goes through several stages to complete the current transaction, and requires payment of a separate fee to the payment mediation system. By using the blockchain, such fees may be processed in a concise manner.

The blockchain can be seen as the perfect tool to make online payments more efficient and transparent. The payment process through blockchain not only speeds up the payments and reduces costs, but also enables improvement in online payments through smart contracts.

The coin ledger offers a perfect system based on coins, which are sent and exchanged anytime, anywhere for a variety of reasons similar to “actual” money, according to rules and methods defined in advance.

Such a payment process will create and expand the ecosystem through the gbrick platform.

4. gbrick platform

4.1 Core components and process

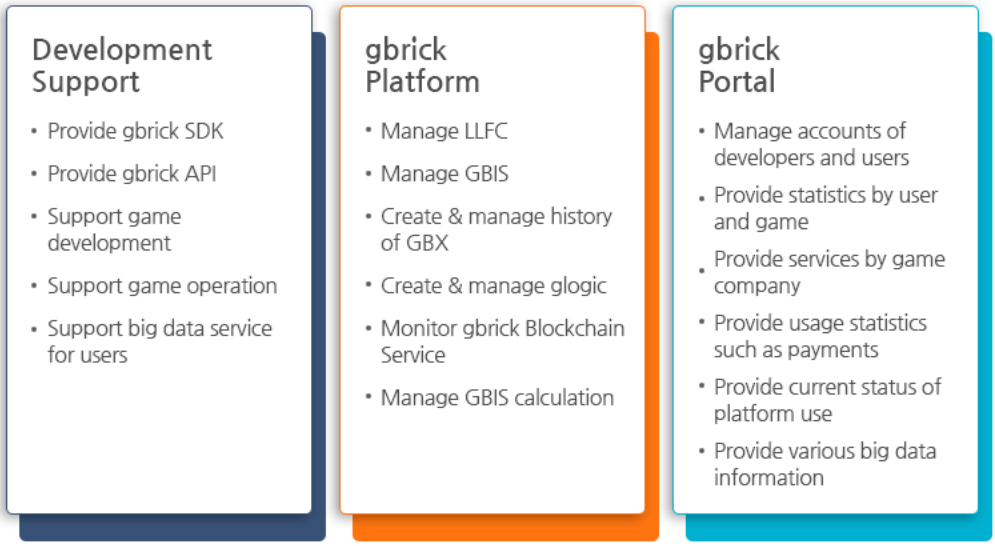
The gbrick Platform will establish a perfect payment system through verified blockchain technology that can accept diverse gaming methods. The system establishment is also supported in order to distribute the maximum profits to game developers and users.

The gbrick Platform has quickly improved Consensus, and supports enabled redistribution of coins based on diverse outcomes by designing a multi smart contract structure when a game is created.

Once they conveniently obtain the rights of use on the platform, developers or suppliers can use a variety of services. They can acquire a great volume of information, such as user patterns, game content, and paths of entry, all of which have been organized into big data, and this will form the basis for upgrading the game one step further for generating profits.

A user can directly participate in several kinds of games made, or can create them to induce participants, which will result in profits for the user.

The gbrick Platform supports simple and convenient use by anyone, with generation of the greatest profits.

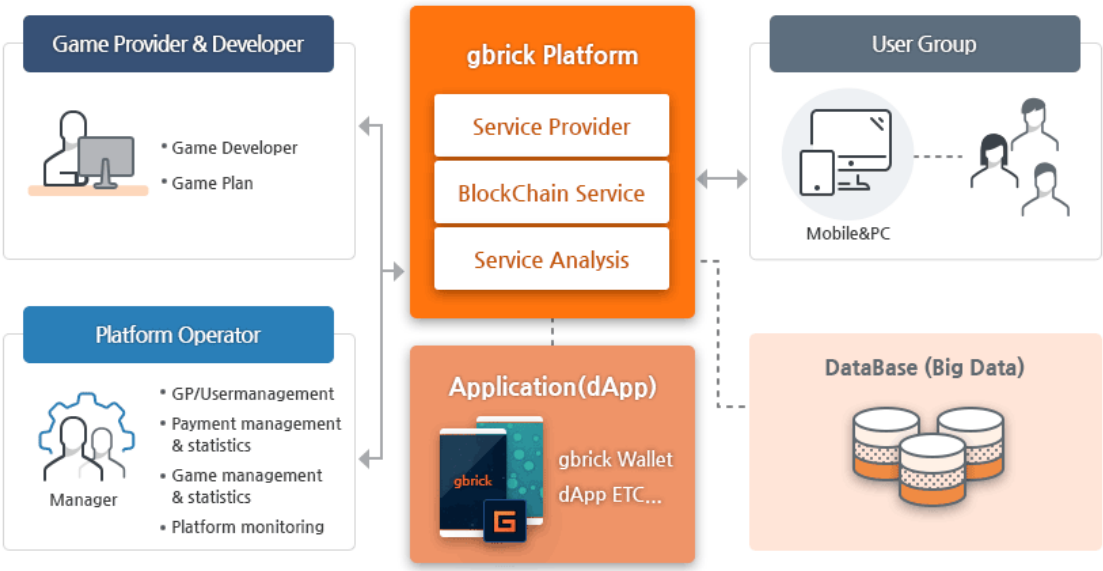


[Figure 3] Block diagram of gbrick platform's features

For better understanding, we will take the game of guessing tomorrow's stock price as an example.

1) A user purchases gbrick coins (GBX).
2) Participate in a game on individual apps of game creators or game company portals, gbrick platform, etc.
3) A smart contract is formed among users when participating in the game.
4) Depending on the outcome of the game, coins are redistributed among users based on the particular smart contract.
5) Coins are also distributed to the game provider (developer) according to the conditions of the smart contract.

Please refer to [Figure 4] below for process flow.



[Figure 4] gbrick platform flowchart

• Platform requirements

- Allow several million users

To accept many games and users, blockchain technology is required that enables reception of millions to tens of millions of users daily.

- Free use of platform

We believe that the flexibility to provide free services to game providers is needed, while for game providers the cost for usage of platform and its services must either be minimized or eliminated. This blockchain platform, which can be used for free, is capable of forming effective profit creation strategies for developers and companies.

- **Simple usage and compensation**

A developer who creates a blockchain-based game must be allowed to conveniently add new games and improve functions through the simple and flexible gbrick platform. Proper compensation must also be provided for nodes that contribute to the network.

- **Stability and reliability**

Games need to offer stable and reliable feedback to their users. If there is an extensive delay or the data is not reliable, users will issue complaints, and such a blockchain will be less competitive than existing platforms that are not in use.

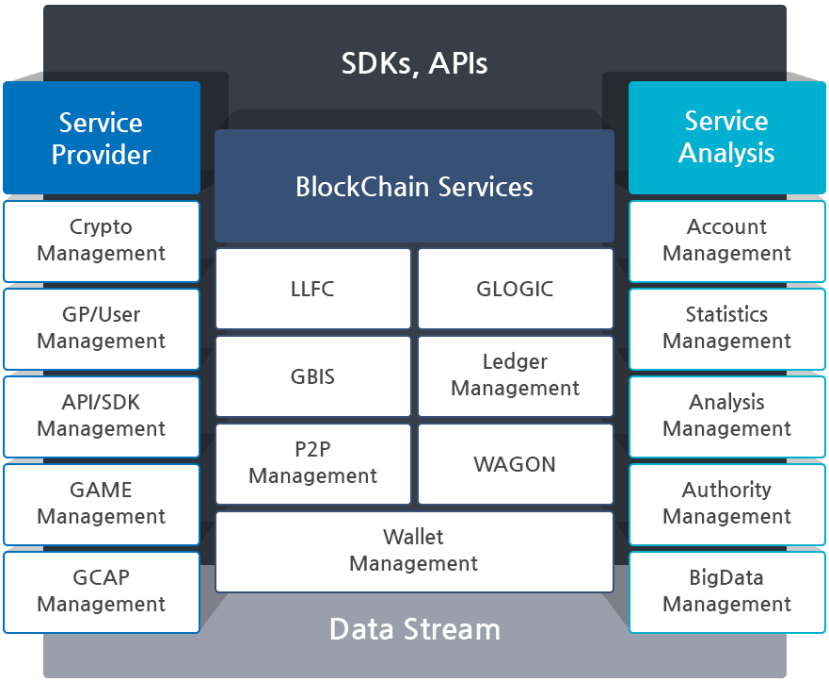
- **Sequential and parallel processing performance**

cannot be made possible by a parallel algorithm. As such processing requires sufficient sequential performance, a platform requires fast sequential processing capability.

A platform must also be able to divide a single task's workloads into several CPUs and computers for processing, and requires fast parallel processing on a great number of games taking place simultaneously.

• gbrick core architecture

The gbrick platform has been designed to satisfy a variety of requirements, and is largely divided and serviced into the domains controlling gaming developers or service providers, blockchain services, and service analysis.



[Figure 5] gbrick core architecture

• Service Provider

Various services are provided to all users, and the diverse information is all encrypted and managed. They may be conveniently used on the gbrick platform, which may be used for free, and particular API and SDK are given to GPs with rights of use.

Once GP adds these specialized API and SDK in a game, it is automatically linked to the gbrick platform. Here, GCAP assists in easily setting payments, incentives, event costs, etc. that GP will use in the game.

This is then linked to glogic, the smart contract management engine of the blockchain service.

- Personal data security

It is extremely important to safely handle personal data. According to the characteristics of public data of the blockchain, information including customer names, addresses, mobile phone numbers, KYC data, and documents may not be saved.

Authorities of the blockchain will be easily verified to permit cooperation among various independent bodies in the ecosystem. Personal data and information are stored in the centralized concentration storage, and managed, encrypted and protected by the gbrick platform.

Safe storage enables access to data through public identifiers, such as blockchain addresses, without usernames or passwords.

• BlockChain Service

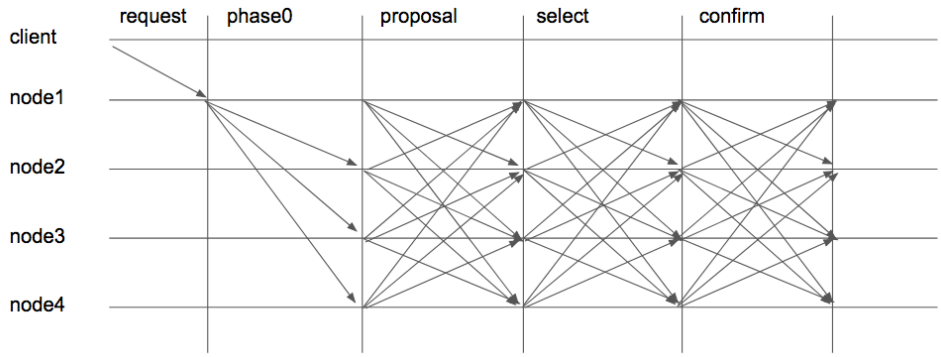
- LLFC (LeaderLess Fast Consensus Management)

gbrick has developed an agreement algorithm that can respond to high speeds in order to materialize a high-speed blockchain service.

This agreement algorithm may be continuously improved in the future, so the gbrick team is now testing various known agreement algorithms and newly modified consensus methods.

LLFC is based on the DPOS (Delegated Proof-Of-Stake) method, and has been developed as a method to resolve the issues of the widely known DPOS. The characteristics of LLFC can be explained by the following keywords.

- **LLFC phase**



- **LLFC pre-phase**

  - Request

  : Client transmits the tx request to the connected node.

  - Phase0

  : Each node propagates the tx of the client it has received to the network.

- **LLFC consensus-phase**

  - Proposal

  : First step of the LLFC phase.

  - Select

  : Each node selects and signs one of the blocks propagated to itself according to the specified algorithm.

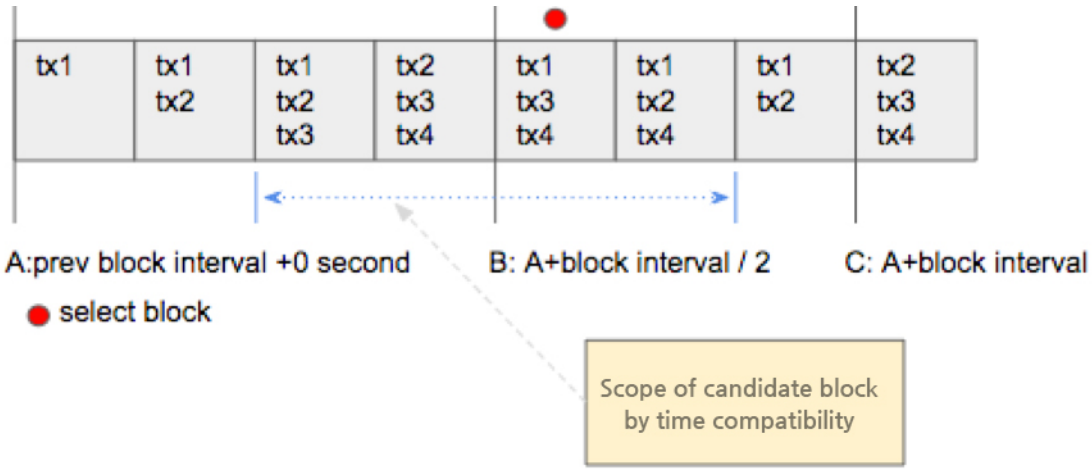
  - Confirm

  . If there is a block selected and signed by more than 2/3 of the quorum of the network, the particular block is applied to its block chain. At this time, this block is already confirmed.

  . The signature signed on to the applied block is collected and transmitted to the confirm block. At this time, the block with the longest signature has predominance.

  . The nodes may update their states with block data signed by more than 2/3, and the length of the signature is used for evaluation on GBIS.

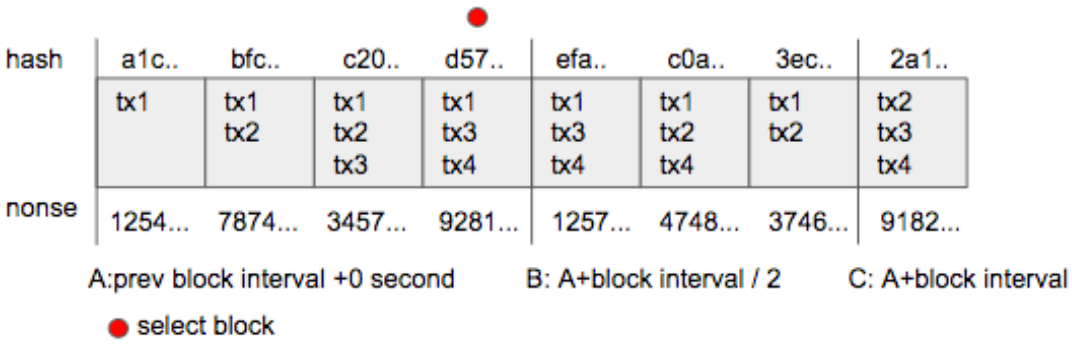
- **LLFC select algorithm**



- **Maximum tx**
  - To contain the maximum number of tx
  - If the same number, the older tx takes priority.
  - Discerns the tx processing ability of the node

- **Time compatibility**
  - Must arrive within the range of the most ideal consensus time
    A block that has the same number of tx as the most adjacent block is regarded to be within the range.
  - The node's network processing ability proves the excellence of network relations.

- **LLFC select algorithm**



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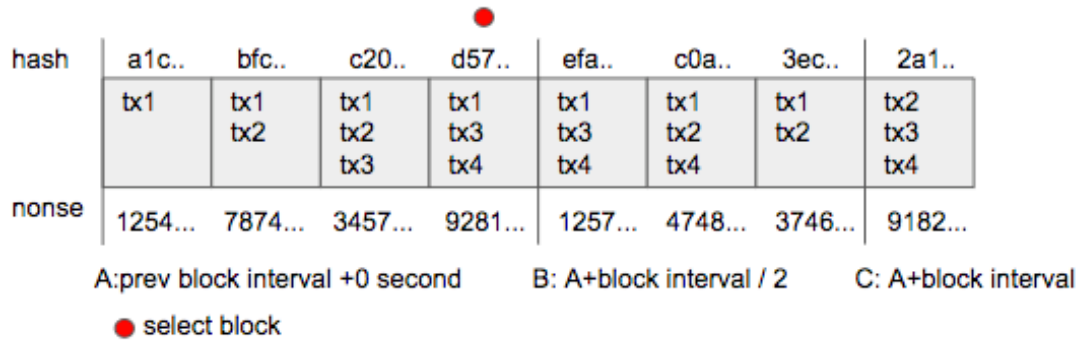
- **LLFC selection algorithm**



- **Proposal block hash**

When creating its own proposal block hash, each node includes its own signature and an arbitrary nonse value. (All hash values of the proposal block become different.)

- **Select conflict tolerance**
  - To prevent failure of the consensus round due to a select conflict when identical criteria occur in the block selection conditions, for blocks of identical criteria, the blocks are selected according to hash priority.
  - Basic conditions are in the closest order to the array of the previous block hash.
  - Compensation for competing blocks may be recorded and processed on GBIS according to the governance agreement, but for the sake of performance this is not recommended.

Dynamic Node Change

Representative nodes of LLFC do not assign authorities on physical addresses, but instead assign gbrick logical addresses (identical format with wallet address). This address may be used when exercising authority as the representative node of the DPOS including GBX transactions, and is managed separately from the physical node address.

It thus makes physical attacks on the representative nodes difficult by exercising authority over consensus and dynamically changing the participating nodes. It also

enables avoidance of penalties on the network due to physical errors at an early period, thus bringing improvement of reliability for the entire network.

Multi-Channel and Consensus Channel

LLFC generally supports multi-channels of various purposes. Each of the channels is operated by abstracted group layers of participating nodes of a network, and LLFC's DPOS consensus is also performed through the consensus channel.

Nodes of LLFC can be classified into various specialized nodes that perform only certain functions of the full node, and these nodes may subscribe to the Consensus Channel for block and message sync.

Vote Weight

On the gbrick DPOS, differentiated voting rights are retained depending on the consigned conditions of nodes, but these are placed in different levels to minimize the difference between the nodes with minimum and maximum conditions. That is to say, the purpose is to prevent nodes that possess a large amount of gbrick coins (GBX), such as exchanges, from unilaterally influencing consensus. The levels of vote weight are initially determined by an agreement made among representative nodes, and may be renewed later.

Quorum

In LLFC, a balanced quorum must be maintained for efficiency in agreement and stability of the network, and if the minimum quorum is not reached, a new representative node must be elected.

To maintain the representative nature of the Consensus Channel, the maximum quorum value may change in direct proportion to the network scale, and details that are agreed upon are recorded on the block.

Penalty

In LLFC, penalties may be imposed on any activity of a node that interferes with a normal agreement process, and may be imposed on activities outside both items defined by the penalties and normally defined items.

Penalties are carried out through deduction of GBX deposited by the authority of representative nodes, and for items and processing of deposits and penalties, the details agreed upon prior to opening of the main net must be announced.

This rule is defined and recorded on the main blockchain of gbrick, and may be revised according to the agreement of representative nodes. Nodes whose deposits have fallen short of the criteria for representative nodes due to penalties automatically lose their rights as representative nodes.

This is applied to both physical nodes and representative node addresses that are currently participating, and addresses that have lost the qualifications of representative nodes cannot be assigned authority to participate in other physical nodes.

Governance

gbrick retains decentralized and unphysical governance, and representatives of the network may exercise their own authority through inherent addresses. Once the new rules of gbrick are proposed, they must be recorded on the block, which then takes effect by including the signatures of the representatives.

To participate as a new representative of gbrick, contribution to the network must be proven, and the conditions are defined as rules. Network contribution may be evaluated in advanced through GBIS.

Leaderless

To solve the issue of leaders typically discussed in POS agreements, LLFC operates an agreement method that does not have a leader.
All agreement nodes may create blocks from the list of broadcasted tx, and the proposal block is then broadcasted as an overall agreement node. Each of the agreement nodes selects the most suitable block from among all proposal blocks collected, and puts it to a vote after adding signatures. The identical block selection algorithm is applied at this point.

The proposal block selection algorithm may consider the following items.

- ✓ Considering the network delays, conditions that will reach the whole in the most efficient and common way are to be retained,
- ✓ It must be the most suitable block for completion of consensus within the time of the block creation period,
- ✓ It must process the maximum amount of tx in the most efficient way possible.

However, proof by algorithm may lead to issues such as forgery of particular conditions and generation of proposal blocks that possess duplicate conditions. If more than one agreement round fails and is re-attempted, it may lead to a problem of increasing the number of blocks that correspond to optimal conditions.

LLFC utilizes a part of the Nonce proof method in order to avoid such algorithm selection issues.

Other than the time and tx needed to make the proposal conditions identical, nodes add arbitrary Nonce to avoid overlap of block hash. In this case, however, the optimal conditions of the created hash are selected again as an algorithm unlike POW's Nonce proof, which extends it until a specified hash is deduced.

Through this method, LLFC enables creation and selection of a leaderless block. All agreement nodes are able to select and sign for the identical block without additional network messages.

- ✓ LLFC is an agreement algorithm based on DPOS that does not need to specify a leader.
- ✓ This is a method in which all nodes select the most suitable block from among all generated blocks according to the order of priority of algorithm instead of a specific leader selecting a created block.
- ✓ If blocks with identical order of priority of algorithm selection are generated, POW elements are utilized to select common blocks without addition of network messages among nodes.
- ✓ This is an algorithm to which all elements optimized for high-speed agreement are applied, among the currently known blockchain consensus algorithms, and it simultaneously minimizes the generally known weaknesses of DPOS.

- GBIS (gbrick Incentive System)

gbrick offers compensation with gbrick coins on nodes contributing to the network in accordance with the Incentives System.
In principle, it aims to redistribute treasury balance with an accumulation of fees, and may include distribution of the additional GBX generated.

Incentive rules are written in the glogic format, recorded on the block and executed in the incentive period, which then records the remaining distributed balance in the incentive balance database. Distributed tx is not generated on each node's address immediately after its implementation.

The remaining balance of the incentive balance database may be claimed by a node possessing particular rights after requesting a withdrawal, and at this time a separate fee occurs for the requested tx.

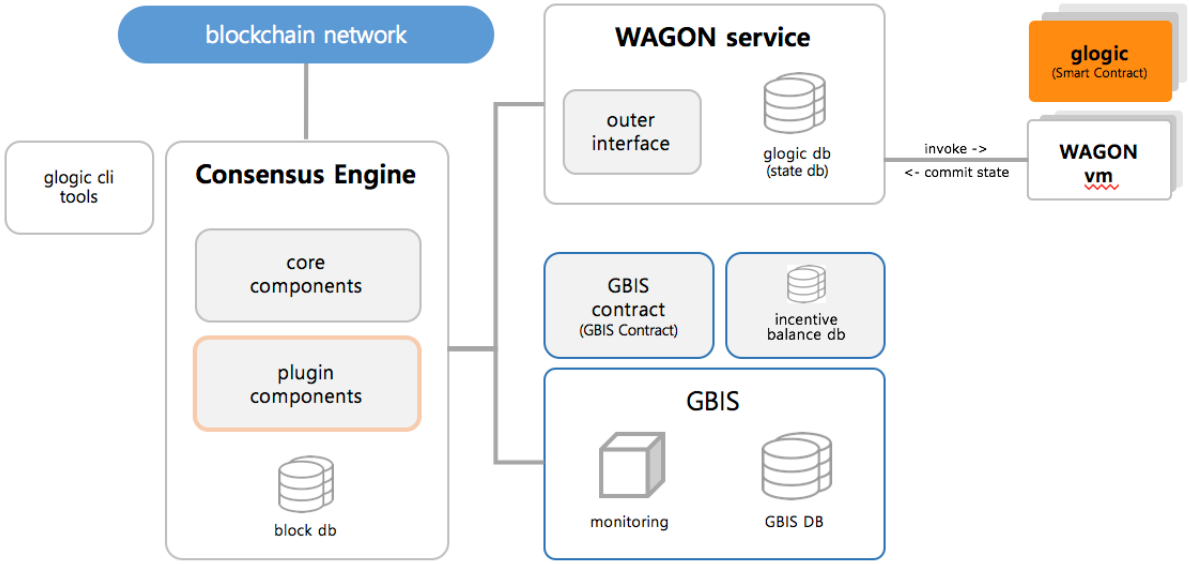
- **WAGON (webassembly grid over network)**

gbrick's smart contract was named glogic.
glogic takes the wasm binary form of webassembly. gbrick offers a tool to convert C/C++ and solidity into glogic and test it.

WAGON is an independent subsystem inside the gbrick node, and a container that loads and executes glogic specified by the tx of the block.

WAGON manages the state database created by execution of glogic, and provides integrity information to the gbrick main process.

- **WAGON Architecture**



- **WAGON Components**

- **glogic cli tools**
  - ✓ Registration of written glogic on GBRICK is requested through the glogic cli tools.
  - ✓ glogic, for which registration has been requested, goes through a code stability test and obtains a certified signature through the governance.

- **WAGON**
  - ✓ Loads gblogic recorded on the block
  - ✓ Executes tx, which has been requested to a particular glogic address, and creates or renews the blogic database

- **GBIS**
  - ✓ The status of each node's contribution to the network is monitored.

- ✓ Incentives are calculated based on the GBIS contract registered according to the specified intervals by the governance.
- ✓ Calculation is performed for blocks written based on executed intervals only and completed details are recorded on the incentive balance db.
- ✓ However, a GBIS contract may take a long time to execute so is executed on GBIS, not WAGON.

The gbrick Blockchain Service owns various verified technologies that are fast, reliable, and unique to gbrick (LLFC, GBIS, GLOGIC, WAGON, etc.) as explained above, and by applying them to the gbrick platform we aim to provide an optimized gaming service.

• Service Analysis

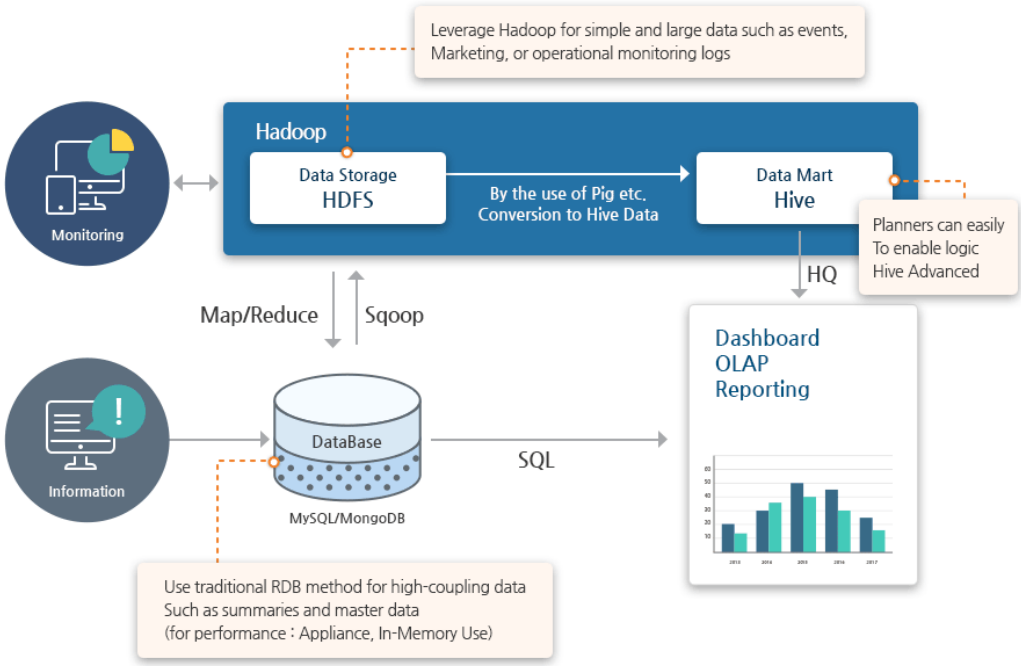
The gbrick platform utilizes big data to manage and informatize platform users, allowing anyone to easily use the provided statistical and analytical data. Such data is used not only as marketing materials for increased usage of the platform but also as materials to launch games and raise the usage rate.

- BigData Management

If a game supplier or developer wishes to gain more information from users, we support induction of greater participation by offering various events.

Focus groups can be created by subdividing specific countries, regions, etc., and such data will be managed for protection of personal information.

The gbrick platform also analyzes various patterns of users, saves them as big data, and provides information to use it for marketing or analysis.



[Figure 6] Block diagram of big data

- **Supplier and developer management**

We will establish an automatic customer assessment system within the gbrick platform, and this is reflected immediately on usage of the platform. Through this, compensation and control can be properly performed and better services made possible.

- **Promotions and events**

We are preparing a variety of promotional activities. The promotion reward mechanism will be made to encourage payments by users, and will offer coins or points if users participate in specific games within the allotted period of time.

To enable a user to easily recommend or participate in events through his/her own network, we are preparing for educational support programs and promotions.

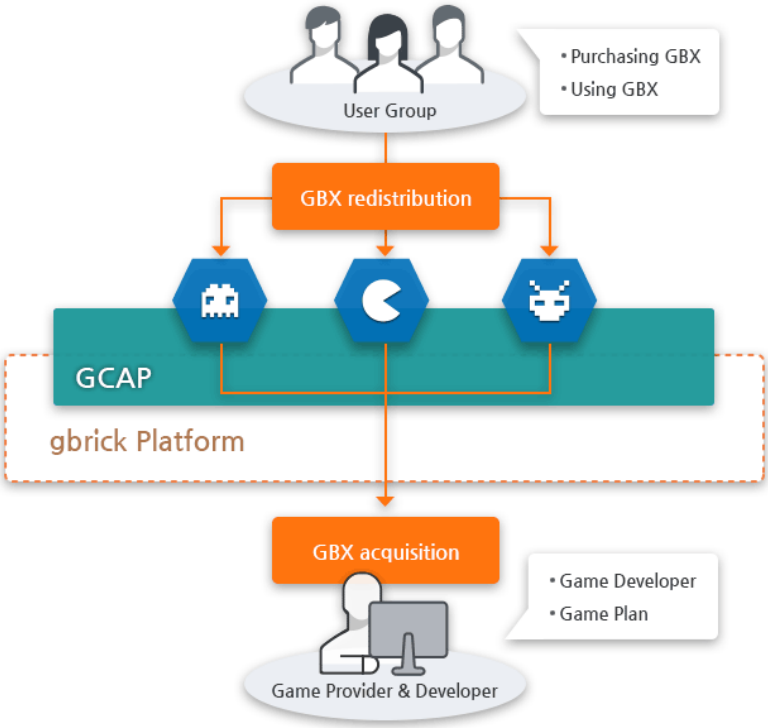
Also, in the gbrick ecosystem, game suppliers or developers may apply the smart contract logic to develop customized compensation programs, if needed. If this is added to the particular GCAP, the platform processes an automatic compensation.

- **Payment Management**

Users need gbrick coins to participate in games, and must obtain GBX through payments. Payment methods are as follows, and various benefits are offered to encourage usage of gbrick coins.

Methods of payment

Methods of payment	Price/fee	Compensation
Cash	General price + 5% fee	Limited
BTC, ETH, etc.	General price + 5% fee	Limited
GBX	General price + no fee	Unlimited



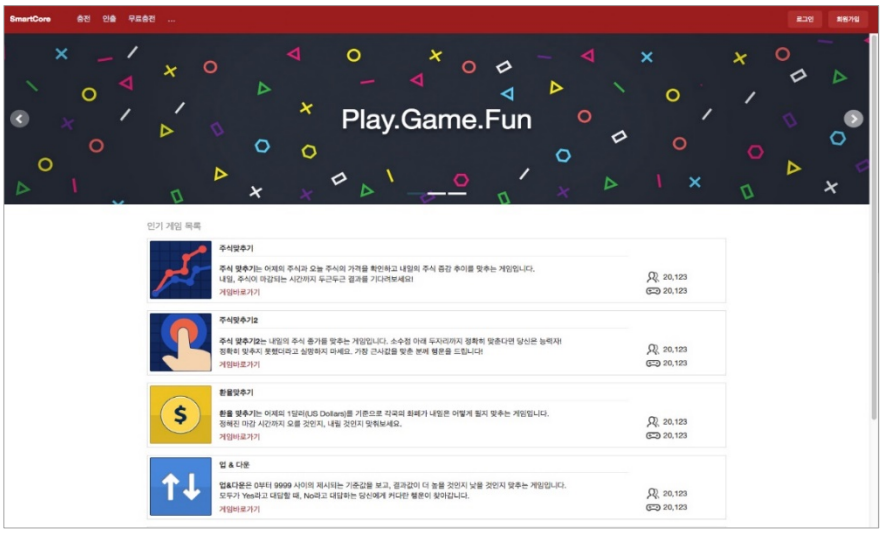
[Figure 7] gbrick coin (GBX) flowchart

Users may use GCAP, the gbrick payment module, to register all games linked to the gbrick platform in the unit of modules on the platform, and this is automatically reflected on smart contracts when a game is created. Depending on the results of the game or payment within the app, automatic payments are made in GBX within the game.

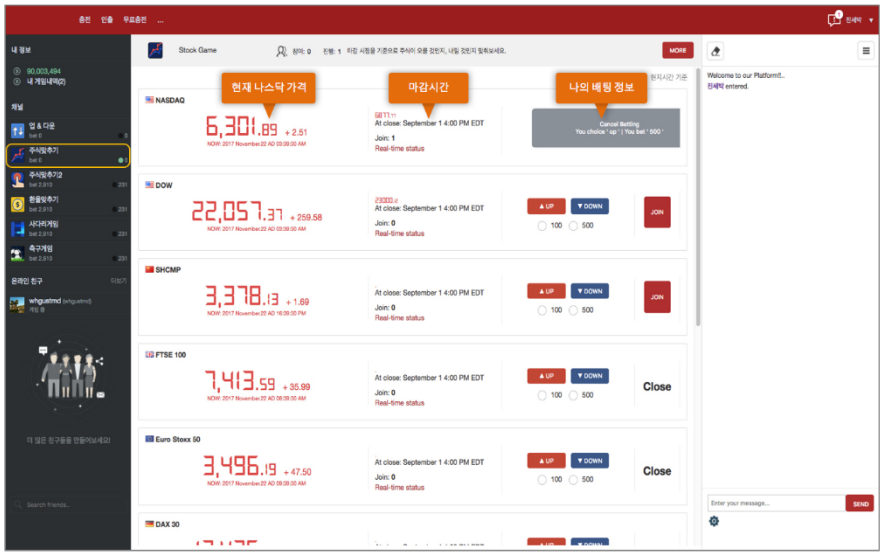
5. App & interface

5.1 Game portal

The gbrick platform portal is scheduled for development as follows, and will offer various systems and interfaces such as payment through virtual currency in accordance with the development plan.



[Figure 8] Main page of gbrick PORTAL



[Figure 9] Example of a link to developer of stock price guessing game

Easy addition of friends on social networks enables simple access to battle games.

[Figure 10] Linking to friends on social networks

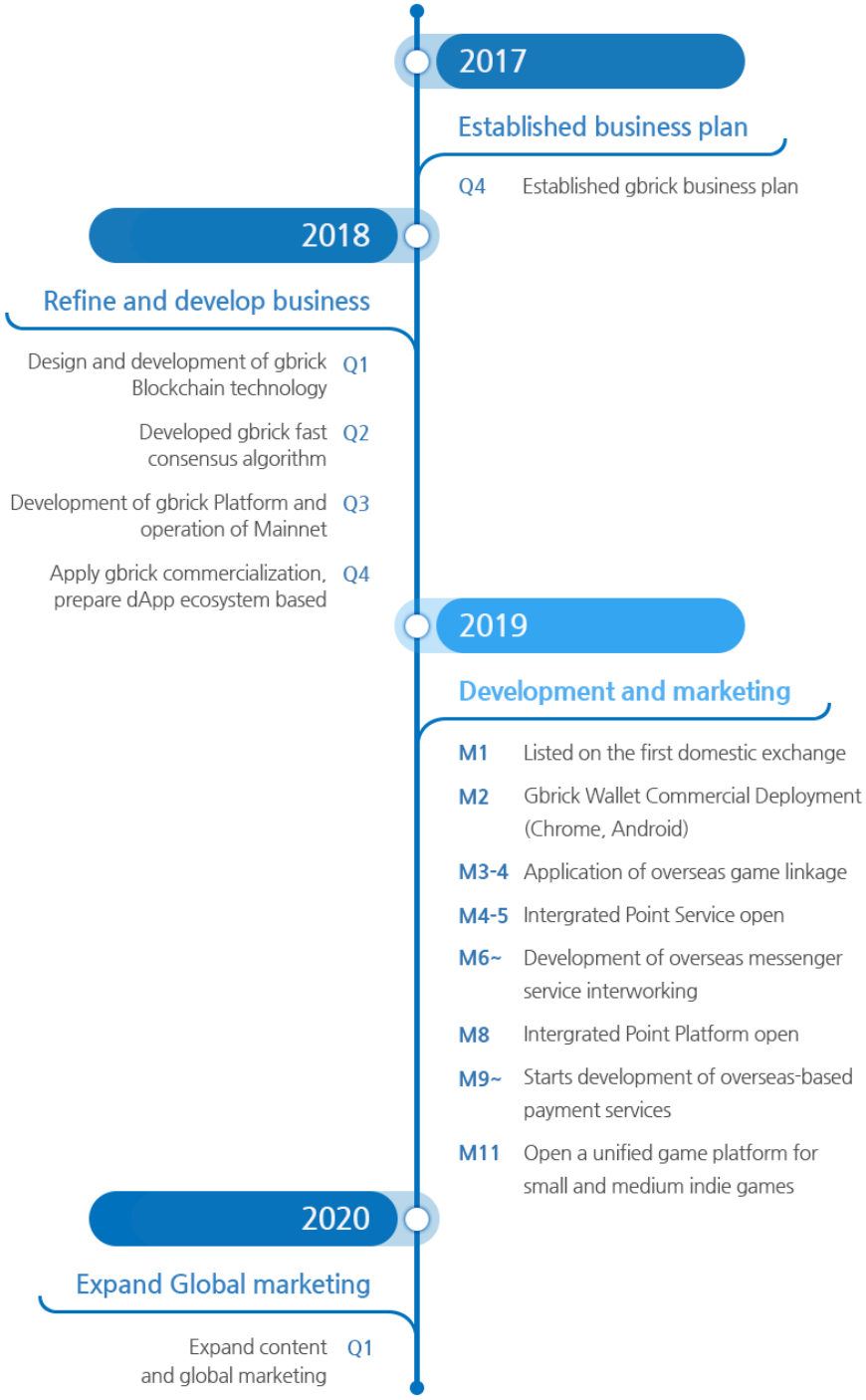
5.2 gbrick Big Data analysis screen

Information is offered such as usage status and payment history to game suppliers or developers for simple comprehension.

[Figure 11] Big data analysis

6. Roadmap

Our roadmap implements technical development, construction of operating infrastructure, formation of partnerships with game developers, and establishment of marketing plans.



6.1 Development roadmap

Our goal is to make a gaming platform of a new paradigm, and through this to create a successful profit model. We already possess experience in creating various platforms and technology of developing blockchain and platforms, all of which are possible through our outstanding workforce.

• Milestone #1: Realiztion of platform

The first milestone is realization of a dispersion-type gbrick platform. We always welcome feedback from communities regarding the platform, and plan to continuously improve to make a platform optimized for gaming.

• Milestone #2: Development of app and web interface

If the first milestone focuses on the back end of the system, the second milestone concentrates on the front end and final user experiences. We plan to release game portals, development sample apps, etc., and to share most of the code bases from among web and mobile using HTML5 and hybrid technology.

In the app, thin clients are included based on open source samples, which enables the app to mutually interchange with various smart contracts on the gbrick platform through GCAP. Developers and administrators may execute the web interface on a web browser without having to install on a computer.

• Milestone #3: Expansion of ecosystem

Along with most of the technology needed to operate an expansion-type gbrick ecosystem, our emphasis will shift from development to growth. Investments for growth of the network will not wait until all development is completed, and an executed version of the app and interface will be preliminarily launched through a link with game developers.

- **Development companies/developers**

The gbrick ecosystem will bring about benefits via the participation of as many outstanding developers as possible. Development companies or developers serve not only as game suppliers in the ecosystem, but also as the engine to induce traffic. Developers use gbrick coins to offer all compensation programs.

Diverse gbrick marketing campaigns will be conducted in order to invite quality development companies, and we will assist with everything needed for even a single developer with ideas to easily receive various services on the gbrick platform.

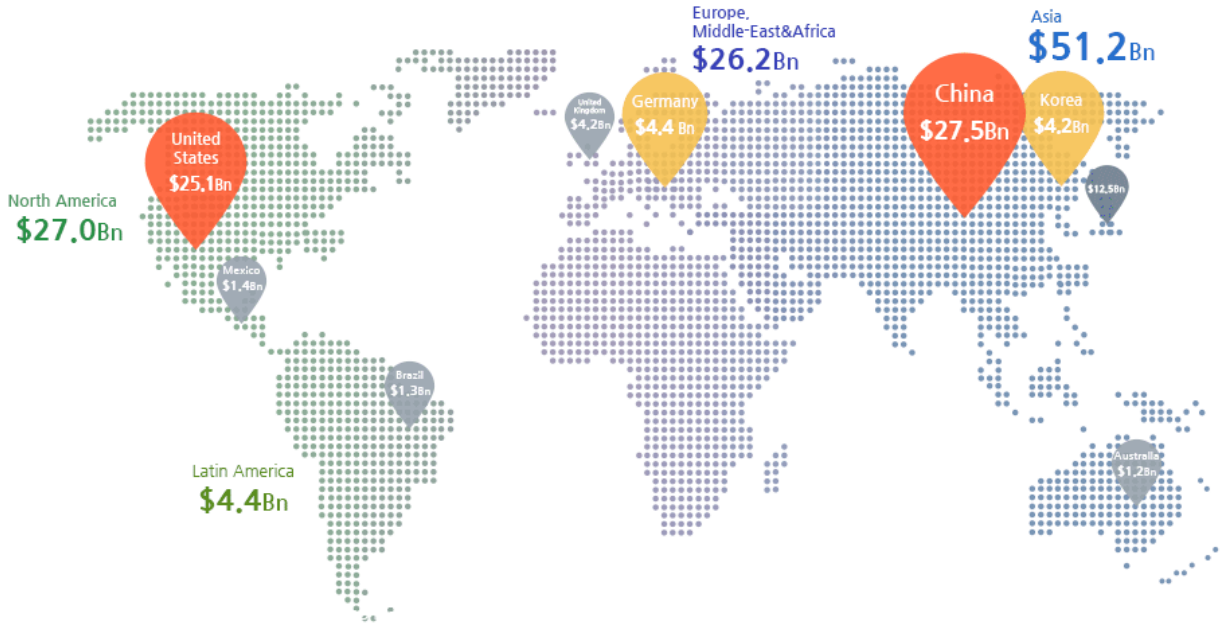
- **Users**

With more and more active users on the network, the sales and profits for game providers increase, and an increase in sales subsequently raises the value of the ecosystem. Also, gaming through a mutual network retains a structure that returns benefits not only to the providers but also to the users.

For the expansion of the user base, there is a method for marketing and promotion of the gbrick app and website to more people. Attracting more users is not the only path to growth. Increasing the participation of existing customers is equally important. The network customer maintenance rate may be raised through improvement activities such as continuous marketing of core games.

6.2 Global expansion plan

We plan to select cities for expansion based on population, income level, and gaming market concentration rate. The map below shows the preliminary cities, which may change as the project progresses.



[그림 11] Newzoo Global Games Market Report 2016~2017

First, the primary gbrick platform-linked games will be discovered and launched in China (Hong Kong), Germany, U.S., Korea, China, etc., with further expansion to constitute the ecosystem during the secondary stage, thus progressing in the creation of games tailored to local conditions.

7. Issue virtual currency

7.1 Overview

The gbrick (GBX) is published as follows.

Coin Details	
Max potential supply	1,000,000,000 GBX

8. Team & Advisors

8.1 Company Introduction

Name of company	SmartCore Co.,Ltd
Located in	Korea
Founded in	2012
Website	http://smcore.co.kr
Areas of business	Blockchain, IoT, Fintech, Cloud, Application
Major development projects (in the past 3 years)	• Developed offline payment system for Kakao Pay (2017) • Developed sensibility IoT platform for Emospaces (2016~2017) • Developed POS ATM system for IBK/Daegu Bank (2017) • Developed HRTS system for Hyundai Elevator (2015~2017) • Developed image processing platform for KT (2016) • Developed Bluetooth simple payment platform (2016) • Developed GbaaS game platform (2015) • Registered patent (1012164300000) for color pattern image certification • Registered patent: 10-2017-0065865 for data transmission method and device using data map among devices

Team

Steve Han
CEO
Current) CEO of gbrick Co., Ltd. (Hong Kong Office)
Current) CEO OF Smartcore Inc.
Majored in software engineering, previously worked at LG Precision
And LG Innotek, possesses 20 years of development-related experience,
currently focusing the company's capabilities on quaternary industries.

SeungMan Jang
CTO
Software development expert with 23 years of development experience related to applications in various environments, IoT, and Fintech.
Participated in AI-related research until recently with France and
Spain; currently participating in developing technology for creating
and managing Ethereum-based coins and tokens as leader of the
development team responsible for blockchain business.

JaeYoun Kim
Service Architect
As an electronic engineering major planning and operation specialist, he has experience in planning and operating services related to Fintech and payment for many years, and has a number of experiences in overseas services.
Currently, he is in charge of planning and marketing for services that can take advantage of the Gibrick and Gibrick platforms.

Jane Park
UIUX Team Manager
Majored in computer science; holds experience as team leader in various projects; participated in development as leader of AI-related team that worked jointly with France and Spain.
Currently aiming to offer a new service based on blockchain technology.

M.S. Jang
Development Team Manager
I have been in charge of the planning and development based on the server or client and AFC client using Open api.
Currently, I am one of the members in the gbrick project that utilizes block chain technique and take part in the development related to the GBX electronic wallet.

JB
SW Engineer
Responsible for server development; participated in various projects for Fintech, IoT, and blockchain-based platforms
Currently in charge of design and development of gbrick platform Server Highly interested in new languages and platforms.

H.S Cho
SW Engineer
Majored in information communications studies at the department of information communications
Responsible for server development; participated in development tasks including big data analysis and payment platforms
Currently in charge of development of gbrick platform Front & BackOffice.

KyungChan Jeon
SW Engineer
As a computer science major, he is currently involved in Gbrick's Smart Contract and the Enhancement of Consenses.

BK Bae
SW Engineer
Majored in information science.
I am interested in encryption, systems and network security.
Currently, he is participating in the development of consensus algorithm technology in the gbrick project.

DS Jung
SW Engineer
Majored in computer science and is currently involved in GBX wallet and back-end development in the gbrick project.

Frances Lee
UIUX DesignerIn charge of web/mobile design with more than 10 years of experience in UI/UX design in projects conducted by large corporations, venture firms, and start-ups
Currently responsible for gbrick's UI/UX design.

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Advisor

Riss Balitz

Advisor

As a blockchain engine development expert, He participated in the commercial coin development and designed gbrick's core algorithm together with gbrick team.

Jae-won Lee

Advisor

Current, CEO of Irang Valuesys

Leading investments in blockchain as CEO of partner firm.

Seong-bum Kim

Advisor

Current, CEO of UTOPSOFT

he has been awarded the Ministery of Culture, Sports and Tourism prize as a representative of UTOP SOFT Co., Ltd, and has been supporting gbrick platform game service interworking.

Dong-won Lee

Advisor

Osstem Implant Co., Ltd., transfer to Hiossen Inc. (USA)

Currently residing in U.S. and responsible for U.S. marketing.

Yun-seong Yeom

Advisor

In charge of financial consulting for gbrick and Smartcore as certified financial planner.

Micky Bae

Advisor

Previously designed and developed various platforms in Korea and Japan, currently participating as an advisor for the development of the gbrick platform

Myung, Soyoung

Advisor

Current) CEO of Green Pollaris. As an expert on greenhouse gases and the environment, We currently operate Green Pollaris, a climate change and greenhouse gas consulting firm. Measures against global climate change include reducing greenhouse gases, reducing personal power consumption, etc. We are planning a project to compensate with coins according to the contribution. We are developing for implementation on the gbrick platform.

Thank you.