GGOOUM CHAIN

Global Intelligent Media Big Data Business Ecosystem

V1.0 (Beta)

SINGAPORE GGUMTHEC LIMITED

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■ 1.1 Great Potential in the Advertising Market

Nowadays, as an independent industrial sector, the advertising industry has formed a professional system with a clear division of labor. With the development of the current industry, the global advertising market grew substantially, and according to data released by GroupM, the world's largest advertising media company by billings, the market reached 523.33 billion USD in 2016.

According to the research report from global authoritative communication agency ZenithOptimedia (world's leading media communication company that regularly publishes advertising industry forecasts that are quite authoritative in the industry) in March 2017, it is predicted that the global advertising market will settle stably from 2011 with a growth rate between 4% to 5%.

In 2017 and 2018, global advertising expenditure increased by 4.4% and it was expected to reach 592 billion USD by the end of 2018.

For China, the advertising industry has entered a mature period after 40 years of development, and now the market has preached its peak and the growth rate has declined.

In 2017, the overall market size of advertising industry increased slightly, and different types of media in the industry were clearly differentiated: visual media and internet advertising media led the rise, while traditional advertising media declined. Among them, spending in traditional media publications declined the most, and newspapers, magazines and visual media utilizing transportation followed the decline lead.

In contrast, spending in cinema advertisements increased by 44.8% annually. Especially in the first half of 2016, it increased with a year-on-year growth rate of approximately 77%, and it entered a stable growth trend in 2017. Another ideal medium is the elevator poster and elevator media advertisement, with year-on-year growth rate surpassing internet advertisement, which was 18.9% in 2017.

Today, where attention has become a productivity, people's time are segmented, leading advertisement to be replaced constantly. As a result, visualization, instantaneousness, smartization, etc. are becoming the mainstream.

Advertisement's visualization focuses on attention, usually focusing on concentration in crowded cinemas, malls, restaurants, supermarkets or in a relatively closed elevator.

GGOOUM will seize the opportunity by deploying various types of advertising equipment to develop an offline business and maximize advertising value by utilizing the segmented time of consumer.

■ 1.2 The Advertising Industry Problem with an Example of Building Ads

✓ **Inefficiency due to limited space**

• If building space is relatively small and crowded, advertisements are easily ignored

• The frequency of user contact is extremely low due to the disparity of consumers' time to go to and leave from work. Moreover, it is difficult to cover all the users in the entire building in a short period of time. In the case of fully-day coverage, consumers can be aware of the advertising brand 4 times at max.

• Consumers' reliance on mobile phones leads a decline in advertising efficiency. The low-conscious focus on the world outside the mobile phone makes it difficult for the surrounding advertisements to attract the attention of the consumers. Similarly, many electronic screens and other types of display advertisements are facing the same problems with no adequate substitute.

✓ **Minimal advertising effect due to irrelevant contents**

Commercial building visual advertising companies and other advertising facilities broadcast the advertisement materials provided by the advertiser in first come, first serve basis, leading no uniform classification of the content. For example, after a pesticide advertisement can come a refreshment advertisement which can not only have minimal effect of the advertisement, but also negative mindset of the refreshment brand.

✓ **Inequalities in profit sharing hinder the development of the ecosystem in the advertising market**

In the past, the key role of the media and advertising industry trading market was played by the advertising agency. As an intermediary, it was possible to arbitrarily adjust the placement of advertisers and media resources, thereby gaining significant profits. Due to the nature of the advertising agency, there is no need to openly and transparently execute the cost system incurred between the advertiser and the media. As such, the situation of acquiring huge profits by using information asymmetry has become a hidden rule in the industry, which in fact has deteriorated the development of a good ecosystem for the advertising industry. On the other hand, as an important part of the overall system, the user is the recipient of the advertising medium and the advertising content or the potential consumer of the advertiser, and is the ultimate spender of the advertising costs, but under this decentralization system, they passively receive the advertising, with no possibility to receive any kind of a reward. The inequal distribution of profits is very unfair and cannot be sustained..

■ 1.3 Why GGOOUM CHAIN is Created

Looking at the overall advertising industry, it still hasn't solved many of the problems. Despite the great potential in building advertisements, the lack of accuracy and the distrust and excessive competition among the working parties led a great waste in resource and timem, causing the overall advertising market a significant loss.

The background of the birth of GGOOUM CHAIN is to effectively solve these irrational and inefficient situations in the building advertising market and to play a leading role in the development of a high-quality advertising market with a clear advertising value and accurate value flow.

✓ **Blockchain--changing the advertising ecosystem**

• Blockchain is a decentralized database in which all records of transactions generated are distributed database that are permanent and intact.

• The blockchain system facilitates the mutual cooperation of non-trusted parties at the resource level and promotes cross-platform user value exchange, thereby better realizing mutual cross-channel guidance.

• Compared to traditional advertising platforms and ecosystem, blockchain is used to increase transaction efficiency and eliminate losses by matching the transaction on behalf of third-party advertising platforms, eliminating the middle ad platform. Moreover, small and medium-sized platforms can promote mutual

development and improve market competitiveness by forming mutual alliances through blockchain systems.

- Blockchain can provide a variety of tools to build ads. For example, advanced technologies such as file registration and fingerprint authentication based on non-corruptible attributes can be used to create a more secure and reliable trading platform that supports user authentication. Furthermore, in a distributed network, end users are not limited to connecting to only one company. Instead, they can interact with variety of content creators to receive what they need, enabling to widely distribute building advertisements.

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Smart trading system contracts can improve transaction efficiency and significantly reduce complex processes between different stages. In particular, in the case of small and medium-sized media, situations such as production delays can be largely avoided.

As a value medium, tokens will realize economic incentives, marketing, and user conversion in this new ecosystem. The architect of the incentive system incorporates economic factors into the blockchain technology system. Tokens are used as a trading medium and value measure within the system, which makes the whole system linked more closely, optimizing the economic incentives in the entire market. As of a result, tokens promote endogenous growth and innovative transformation.

Chapter 2   GGOOUM CHAIN: A Precise Advertising Display System
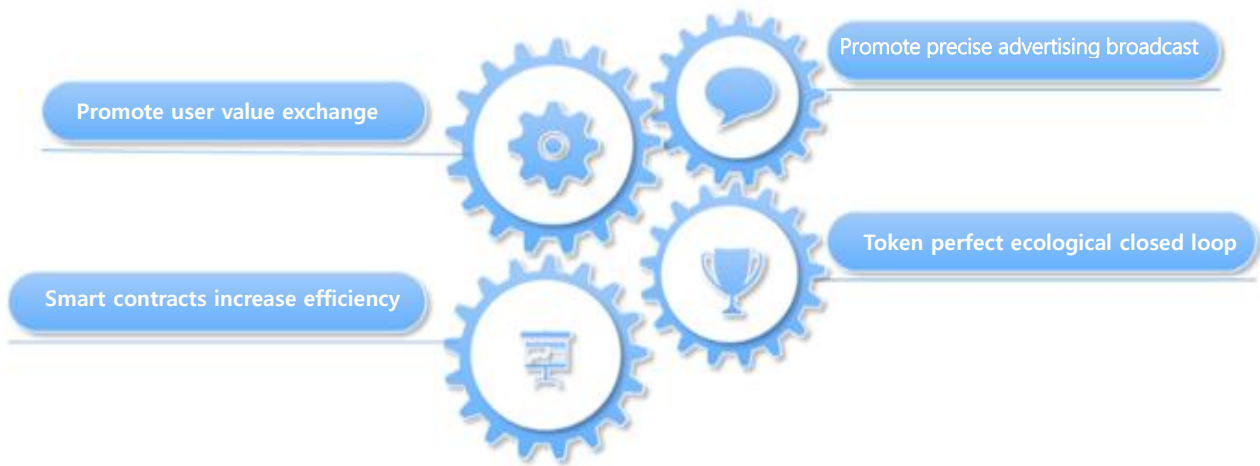
■ 2.1 GGOOUM CHAIN

GGOOUM CHAIN is a decentralized platform, whose main body is **SINGAPORE GGUMTHEC LIMITED**, and is responsible for the development, promotion, and operation of GOOM CHAIN **GGUMTHEC Foundation** (hereinafter referred to as the Foundation) is a non-profit organization registered in Singapore with a holding company in Singapore. The foundation is responsible for the construction, promotion and operation of the entire GGOOUM CHAIN Open Community. The main goal of the GGOOUM CHAIN Open Community is to attract and support technology developers and organizations to continuously optimize and upgrade the entire ecosystem of GGOOUM CHAIN, including development tools and applications.

■ 2.2 What is GGOOUM CHAIN?

GGOOUM CHAIN (Chinese: 夢回鏈) is a decentralized, accurate advertising display system created by blockchain technology. As a broadcasting and coin mining system based on diversified advertising facility creates a more valuable and accurate advertising platform.

Relying on the technological advantages of a transparent and incorruptible blockchain, the circulation of GGOOUM TOKEN values enables i nvestors and promoters to share future earnings and establish global merchant alliances. GGOOUM will independently develop its own top-tier blockchain technology to pass upstream and downstream resources to create approximately a trillion ecosystem of global smart media big data business applications.

GGOOUM CHAIN plans to independently develop the best blockchain technology where it can upstream and downstream a trillion-level resources in order to build SMBA (Smart Media Bigdata Application), which is a global business ecosystem.
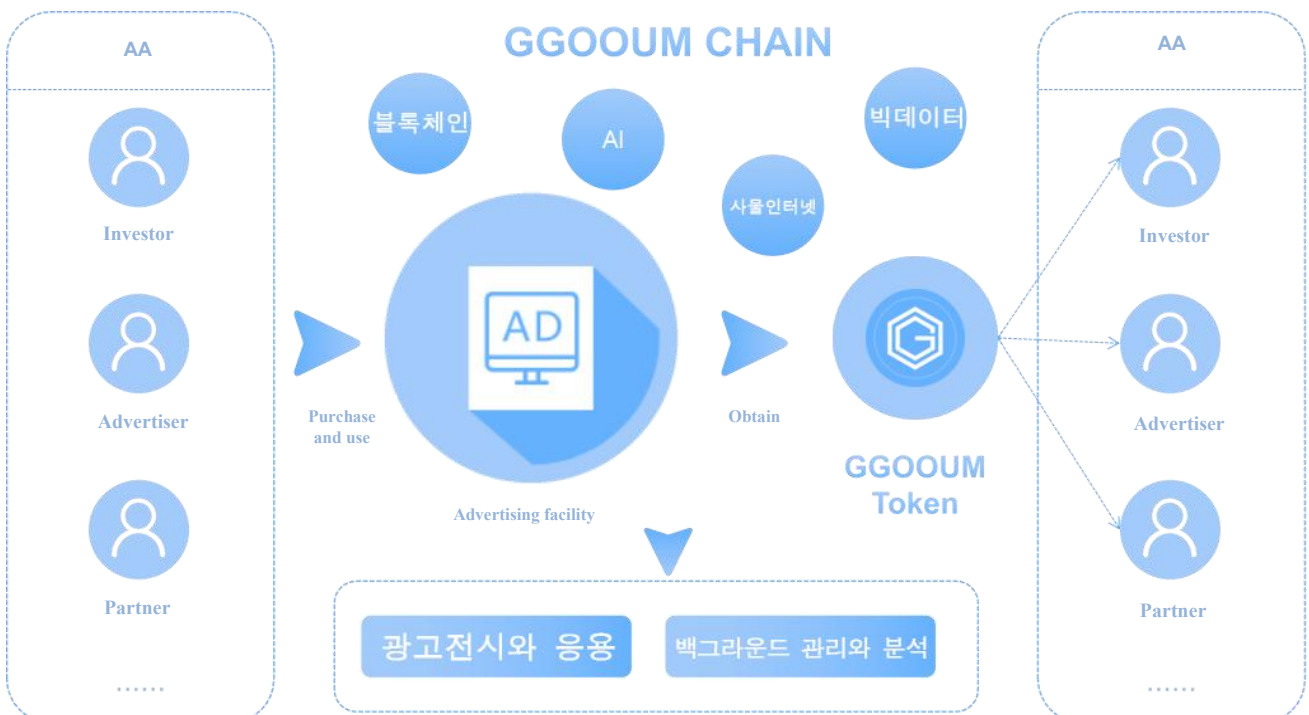
■ **2.3 GGOOUM CHAIN Technology Platform**
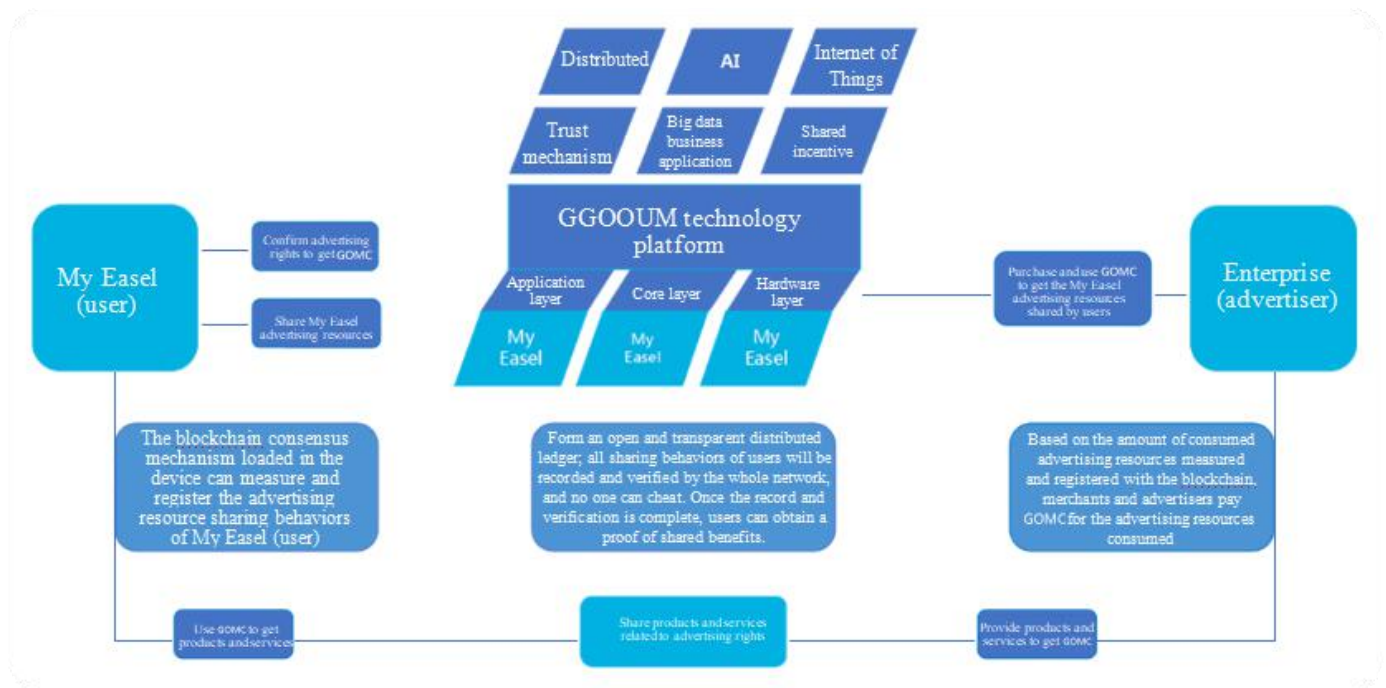
■ **2.4 GGOOUM CHAIN's Traits & Advantages**

✓ **Decentralized Resource Exchange**

• The advertisers can choose the location operator directly and the operators accepts the bid after considering their current situation. When the parties exchange resources through the advertising facility, they can communicate directly through GGOOUM CHAIN, eliminating intermediary links and saving intemediate costs.

✓ **Trustworthy Automatic Settlement**

• When an advertisers and investors cooperate to advertise, each delivery task is a smart contract.

• As the full link data is transparent, the resulting mining rewards can be settled in real time by smart contracts, significantly shortening upstream and downstream accounting period, avoiding contract disputes and perfectly solving the problem of settlement of multinational business.

The mission of GGOOUM CHAIN is to connect every screen with IoT technology, solve the trust problem of playback effects with blockchain technology, and use artificial intelligence to achieve accurate advertising. The TRANXVIEW technology developed by GGOOUM CHAIN can be adapted to the screens of various IoT devices to achieve perfect playback of advertisements from mobile phones to large screen.

Functional System : Distributed Ad. Application Platform

3.1 Front End- Advertising Display and Application

✓ **Reliable Playback Effect**

• GGOOUM CHAIN uses the distributed trans ledger to record all data traces from production to playback and restore 100% at a specific time, transparently encrypting them by revealing playback effects without having to enter a third-party monitoring platform.

✓ **Internet of Screens**

• GGOOUM CHAIN adopts the "Proof of Activity" consensus to evaluate the video contents of connected advertising facilities, including the interaction frequency, effectiveness duration and play time.

✓ **Personalized Advertising Customization System**

• Advertisers can customize personalized advertising in GGOOUM CHAIN with variety media information like video, audio, pictures, text, flash and precise cloud display, and support a variety of unique special effects.

✓ **Intelligent Play System**

• The blockchain-based distributed ledger of GGOOUM CHAIN is used in the Internet of Things (advertising facilities) ecosystem and utilizes the token economic system of the blockchain to the maximum extent to form movement through mining incentive mode. In addition, centralized IoT network organization enables effective communication between advertising facilities and GGOOUM CHAIN.

✓ **Artificial intelligence Recognition**

• As GGOOUM CHAIN is developed, the facial recognition system of the advertising facility analyzes how much attention is received in other parts of video, text, photograph and video along with artificial intelligence, and provides the analyzed database to the company to optimize the advertising effect.
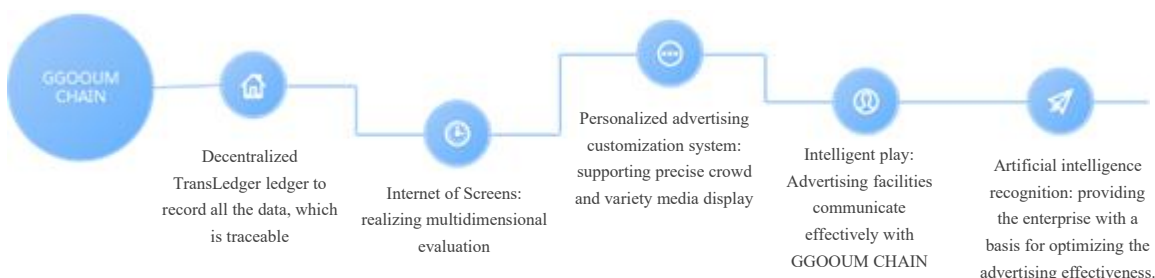
■ 3.2 Backend-Backup Management and Analysis

✓ User concentration analysis

•   Advertising facilities of GOOUM CHAIN use artificial intelligence to identify micro facial expressions of users and facial attributes, such as gender and age accurately. And these facilities also can comprehend the acceptance information of each advertising types and use them rapidly. Big data algorithm, which statically analyze user's cloud attribute, type of preference, preferred tag, and geographic information, increases product competitiveness by encouraging users to utilize their main focus effectively so that they can find the right path..

✓ Precise direction setting

•   In the GOOUM CHAIN, users can set the advertising directions of the internal and external advertisement facilities, according to age, basic attribute, environment, key word, education, price, etc.

1

Industry

Subdivided into 128
sub-items to choose from

2

Time orientation

Independently set up advertising
cooperation, content exchange
and delivery time period

3

Geographical orientation

Covering everywhere in the
provinces, cities, and counties,
reaching the target area of
advertising

4

Feature

Big data screening and matching
based on the tag attributes of the
browsing crowd, personalized
recommendation advertising

✓ Image data management system

- Image data management system of related advertisement in the GGOOUM CHAIN execute quick downloading demand, query creation, integrated storage of image modeling and other technologies, hierarchical storage management, processing image using distributed storage as a core, artificial intelligence, distributed bulk storage, and process data analysis and data sharing rapidly by saving image data into the backup storage.

✓ Intelligent management

- Applying the machine learning and predictive analysis of advertising facilities on the incoming data from IoT, Operator can easily manage and operate collected data without any details of IoT smart advertising device and interface and also can do overall monitoring, predictive analysis, and optimization on the smart device. Especially, without human intervention, smart devices not only automatize the IoT data analysis, but can operate advertising device in the manner of intelligent method in real-time.

✓ Transparent and Controllable Transaction

- Smart contract and public ledger based on blockchain solve the trust issues between advertiser and advertising devices effectively. And These also highly increase clarity and stability by recording every data derived from each dealing taken place through the open, clear dealing system on the blockchain.

User attention analysis: uses artificial intelligence technology to identify the user's micro-expressions and accurately identify various facial attributes such as gender, age, and expression, etc.

Precise orientation setting: users can set advertisement orientation of advertising facilities at home and abroad according to users' age, basic attributes, environment, keywords, education, price, etc.

Image data management system: achieve the demand of storing, querying, fast downloading, data analysis and data sharing of storing massive image data to backup storage media.

Intelligent management: Applying machine learning and predictive analysis of advertising facilities to incoming data through IoT technology. Operators can easily manage and operate the data collected by the device without knowing the details of the IoT smart advertising device and interface, and comprehensively monitor, predictively analyze and optimize the smart device.

Transparent and controllable transaction: The blockchain allows each transaction and even every exposure to be recorded on the blockchain through an open, transparent trading system, greatly enhancing transparency

Product Introduction

■ 4.1 Advertising Facilities

GGOOUM has various types of advertising facilities, cloud servers that combine intelligent hardware and the Internet of Things, and adopts distributed storage and distributed computing to ensure integrity and security of advertising data and to protect security and personal information thoroughly when uploading users' data using asymmetric encryption technology.

Each advertising facility of GGOOUM can be regarded as a coin mining machine, and when broadcasting advertisements as an advertising facility, coin mining is possible, so that resource providers and advertising companies can collaborate and share profits together..

■ 4.2 Main Products of GGOOUM

Internet of Things L-Road MyMenu 메

Android digital screen →

Menu content　　**Popup content**

Division	Contents
Product Name	L-Road MyMenu (IoT Video Menu Board)
Usage	A digital animation menu that can update contents and advertisements from time to time at any place
Commodity Composition	1. Digital menu board 2. Menu editing scheme
Main Functions	• Cloud service for menu code • Remote editing menu • Video events • Play advertisements
Expected Effect	• Menu contents can be displayed in video, inducing customer attention. 　• One picture can introduce multiple menus at the same time. • Menu content can be edited remotely from time to time. • Event menu • The menu can be interspersed with advertisements to bring carried interest.

L-Road MyEasel

Division	Contents
Product Name	L-Road MyEasel
Usage	1. Need to create, paste and display advertisements from time to time. 2. Update menu contents from time to time. 3. Automatically manage menu contents by process (time). 4. Small and medium-sized commercial bodies in hotels, real estates, beauty salons, etc. 5. Wedding venues, wedding banquets, event venues, etc. that require video promotion.
Main Functions	• Ultra-small design, easy to move. • User-friendly design, easy to integrate into surrounding environment. • Available for content replacement at any time with a smartphone/PC • Cloud Server Platform with synchronous machines and services. • Individual whole combined information management and control function. • Achieve low power on android, reduce A/S, and enhance system stability.

Expected Effect	• Reduce costs compared to printed materials.
	• More convenient to manage, control and use compared to the original DID product.

L-Road MyStand

Division	Contents
Product Name	L-Road MyStand
y	1. Need to create, paste and display publicity materials from time to time.
	2. Update menu contents from time to time.
	3. Automatically manage menu contents.
	4. SMEs required by hotels, real estate, beauty salons, etc.
	5. Wedding venues, wedding banquets, event venues, etc. that require video promotion.
Main Functions	• Digital image menu for virtual broadcasts can be played
	•Organize image activities from time to time through menu screen
	•Add virtual advertisements from time to time through menu screen
	•Menu video contrasts with regular menus to induce customer attention
	•Information can be updated anywhere with a smartphone/PC

	•Support machine and server synchronization, providing a synchronizable Cloud Server Platform
	•Distinguish management and control information by individual, whole, combination, etc.
	•Low power consumption on Android, minimal A/S, and enhanced system stability.
Expected Effect	•Reduce time and costs compared to printed advertising materials
	•Convenient to manage, control and use compared to the original DID products
	• Menu cut-in advertisements, etc. can increase revenue

■ 4.3 Income

GGOOUM uses the POW mechanism to automatically make each device a mining machine; each partner is a miner and the same is true for advertising. Smart contracts are awarded under a customized cooperation treaty between advertisers or resource suppliers to allocate the GGOOUM TOKEN.

GGOOUM regularly transmits GGOOUM TOKEN to the user's wallet through smart contracts. The profit distribution mechanism is as follows.

1) Total amount of distribution : Approximately 700 million

2) Distribution cycle：70 % of the total amount of GGOOUM TOKEN is reserved to be mined at the GGOOUM intelligent advertising cloud hash rate generated by equipment terminal mining.

Two-Step Mining
The first stage is 30 days in one cycle, the number of coins produced a day is 10,000 GOMCs, and it is a total of 36 cycles and 1,080 days. The output of each cycle increases by 10%, and until the daily output of coin is 281,024 GOMCs, it lasts for 36 cycles and does not change after the production cycle is completed. (expectation in 36 cycles – 1,080days)

 The second stage is in 1,080 days, and daily output is based on fixed daily output of the 36th cycle, and 281,024 GOMCs a day do not change until the mining is completed. The total mining time lasts 3,252 days (1,080 days in the first stage + 2,172 days in the second stage).

Cycle （30 일）	Daily Coinage Volume	Total Output in the Cycle
1	10000	300000
2	11000	330000
3	12100	363000
4	13310	399300
5	14641	439230
6	16105.1	483153

7	17715.61	531468.3
8	19487.171	584615.13
9	21435.8881	643076.643
10	23579.47691	707384.3073
11	25937.4246	778122.738
12	28531.16706	855935.0118
13	31384.28377	941528.513
14	34522.71214	1035681.364
15	37974.98336	1139249.501
16	41772.48169	1253174.451
17	45949.72986	1378491.896
18	50544.70285	1516341.085
19	55599.17313	1667975.194
20	61159.09045	1834772.713
21	67274.99949	2018249.985
22	74002.49944	2220074.983
23	81402.74939	2442082.482
24	89543.02433	2686290.73
25	98497.32676	2954919.803
26	108347.0594	3250411.783
27	119181.7654	3575452.961
28	131099.9419	3932998.257
29	144209.9361	4326298.083
30	158630.9297	4758927.892
31	174494.0227	5234820.681
32	191943.425	5758302.749
33	211137.7675	6334133.024

	34	232251.5442	6967546.326
35	255476.6986	7664300.959
36	281024.3685	8430731.054

Cycle (300 days)	Daily Coinage Volume	Total Output in the Cycle
1	281024	84307200
2	281024	84307200
3	281024	84307200
4	281024	84307200
5	281024	84307200
6	281024	84307200
7	281024	84307200
8	281024	20111558

In the 300-day cycle, the daily coinage volume in the first cycle is 10,000, and the output per cycle increases by 10%, which is the second cycle with the daily coinage volume of 11,000.

3) Decay cycle : The cycle of each output increase is 300 days

4) Decay factor : The percentage increase per cycle is 10%

5) Hash rate formula:

$$\text{Hash rate} = \frac{\text{Online time (in hours)}}{12 \text{ hours}} \times \text{Hardware capacity G/h}$$

If the hash rate of each device is G, and the total amount of tokens per day is C,

Output formula：

$$\frac{G1}{G1+G2+G3+...+Gn} \times C$$

6) Distribution rules : If the total amount within the period is allocated, the dividend of this round will be suspended, and if the total amount of distribution within the period is not completed, it will automatically accumulate to continue to be distributed during the next distribution period..

7) Return rate :   The first step calculated according to the computational power of GGOOUM TOKEN per one is 15 % per year, and then the revenue is adjusted according to the GGOOUM network computing power, mining difficulty, total computing power, virtual mining pool GGOOUM TOKEN number, node number, block height and other parameters. The minimum amount is more than 10% per year and the maximum amount is not limited.

■ 4.4 Description

Users can bind the advertising function in the official APP and bind one account to several functions. GGOOUM NAS intelligent systems use the Long share protocol, so all other products except official products are not accessible to the GGOOUM cloud platform.

✓ 4.5 Cloud Mining Plan

Mining is one of the ways to generate digital currency in many blockchains, and it is an indispensable part of blockchain composition. GGOOUM CHAIN Mining Cloud Plan provides more benefits to users by performing nationwide multi-machine drilling.

GGOOUM CHAIN is built on the storage currency principle of FileCoin, an IPFS network for mining. IPFS is a global Peer-to-Peer distributed version of the file system, with the goal of complementing (or replacing) the current transport protocol (HTTP) that dominates the Internet and connecting all computing devices with the same computing system. The principle is to convert domain-based addresses into content-based addresses. In other words, the content that the user is looking for is stored in a specific location, not a specific address, so the hash of the content must be checked instead, and the web page can be made faster and safer according to the identity of the sender.

The open source system of IFS allows users to perform file coin mining through the remaining storage space of the GGOOUM CHAIN cloud, so that more mining can be performed on one machine.

Chapter 5   Proven Economic Ecosystem Model

5.1 GGOOUM CHAIN Incentive Ecosystem

✓ **Promotion rewards**

•   According to GGOOUM TOKEN's incentive mechanism, brand indication and user research will receive GGOOUM promotion compensation if you become a promotion user of GGOOUM or participate in a special event. Promotional compensation is provided from advertisers promoting GGOOUM.

✓ **Global shopping cashback system**

•   Users can pay in cash anywhere in the world using GGOOUM TOKEN. In other words, consumers can receive compensation from TOKEN when purchasing through GGOOUM TOKEN, and discounts will also be provided using GGOOUM TOKEN.

5.2 GGOOUM CHAIN Value Ecosystem

✓ **Fee payment**

•   GGOOUM TOKEN is a digital asset in the entire GGOOUM CHAIN advertising ecosystem, and in branch-to-branch transactions it can be used directly to pay for the costs of the exchange and purchase physical assets.

✓ **Service fee payment**

• GGOOUM TOKEN can purchase a variety of services that are derived from the company's advertising services, that is, the GGOOUM CHAIN ecosystem.

5.3 Circulation

GGOOUM TOKEN supports a variety of cryptocurrency exchanges and has formed an integrated management system for easy-to-deal platforms from GGOOUM platforms to TOKEN settlement and cash settlement. The GGOOUM platform forms an integrated management system through certificate form, forms a global platform for large commercial applications of intelligent media, establishes a simple trading mechanism, simplifies platform revenue and spending processes, and effectively controls the flow of funds on the platform.

To sum up, GGOOUM TOKEN can be used for the circulation and consumption of platforms as a digital encryption asset, which is the distribution of GGOOUM TOKEN.

5.4 Economic Model

GGOOUM TOKEN is the basis for the entire GGOOUM CHAIN operation. The equipment produced by GGOOUM are placed free of charge in crowded shopping malls. Merchants or other investors can purchase equipment and acquire GGOOUM TOKEN through mining of smart advertising cloud computing equipment, so more users can participate in platform construction and the more equipment is mining, the more influence it has on GGOOUM ecosystem. In addition, GGOOUM TOKEN used for the use of data by third parties and the purchase of goods will maintain or promote price increases, and as a result, the platform users will increase more and the price of GGOOUM TOKEN will increase as the platform growth space is larger.

Through the operation management that considers distributed design and user value as the top priority, GGOOUM platform will ultimately exchange the rights of the public, grow and reproduce the entire system freely, and realize the form of self-sustaining, not central control.

Blockchain Technology Application

6.1 Overview of Basic Structure

In the early stage of GGOOUM, the intelligent contract ERC20 will be used. As time goes by and thed evelopment of the project, it will develop its own parent chain in the later stage, and use the parentc hain to open up the upstream and downstream industries to form an integrated media data industy chain system.The GGOOUM structure is roughly divided into five levels: decentralized application layer (DAPPlayer), contract layer, blockchain core layer, network layer, and data layer.

Among them, the DAPP layer mainly includes a wallet, a browser, and the like, and users and merchants can also develop third-party DAPP based on existing data on the platform.

The contract layer mainly supports programmable smart contract modules. The industry often usesc ustom Turing-complete virtual machines or mature programming languagesfor contract writing.

GGOOUM will refer to these architectures to design their own smart contract virtual machines and provide rich documentation for developers to use. As the mainstream of the future blockchain, Oraclep redictor will also support various smart contracts on GGOOUM to provide asecure and reliable datasou rce.

At the core level, it includes account management, crosschain agreements, consensus mechanisms,n ode management and mining modules. It is the core of thearchitecture and supports the efficient andsta ble operation of the entire GGOOUM.The network layer uses P2P networks and other data validation gat eway technologies to ensure efficientinterconnection of blockchain networks.

The data layer mainly contains block data, ledger data, and contract data. The initial design is based onI PFS for storage.IPFS is a global distributed storage system, which is suitable for multi-center, point-to-point, and high-frequency interactive applications in various environments. There is no upper limit to the performance of the scenario theortically.

6.2 Development Service Layer

✓ **Smart contract credit management**

• Allowing developers to design and create smart contracts that contain business logic that interacts with the blockchain system through interfaces and other interaction mechanisms.

• Providing smart contract upgrades and data migration capabilities, but to meet the upgrade rules set by the original smart contract.

✓ **Smart Contract Portfolio Service**

• Creating new service features by combining existing one or more smart contracts.

• Designing an integrated interface for service users to access multiple blockchain system service functions.

✓ **Smart Contract Testing Service**

• Testing component functions implemented in the blockchain system to ensure that these components are complete and effectively implement service functions.

• Testing the component functions implemented in the blockchain system to detect the system security and robustness of these components.

- Ensuring interoperability of service function interfaces.

- The test should cover the service deployment nodes in the blockchain system.

✓ **Smart contract template service**

- For general contracts, it can set simple parameters to generate contract templates, and deploy them with simple changes.
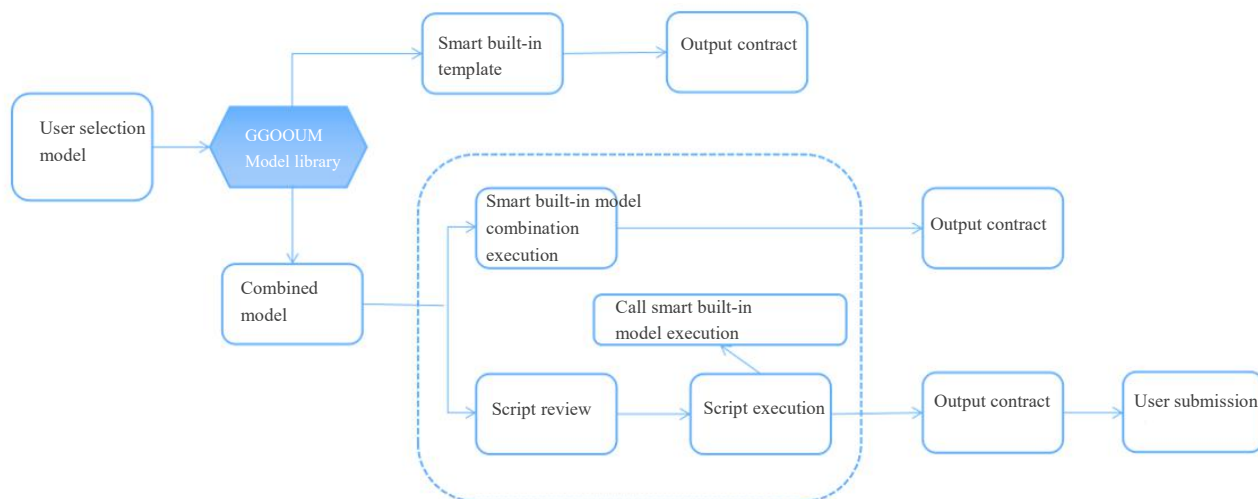
✓ **Blockchain API**

- It is planned to provide API interfaces like RESTful, RPC, WebSocket and so on, which can call various services of the blockchain.

✓ **SVM Virtual Machine**

- GOOUM will build its own virtual machine SVM. The virtual machine supports stack-based and register-based modes, and using Turing's complete language to write smart contracts. In order to prevent infinite loops, run limit and time limit are used to reach a system consensus. At the same time, the virtual machine comes with introspection function, which mainly includes transaction introspection and block introspection, and increases the security and system reliability of the virtual machine.

■ 6.3 User Service Layer

✓ **Digital Wallet**

Blockchain's digital wallet is a program to save digital currency. Members registered in GGOOUM platform have individual Private Key (password) to utilize wallet safely. This Key is the only way to receive or send Credit by accessing to the location where cryptocurrency is saved.

Users can use digital currencies saved in digital wallets like cash in the general wallets used in offline. Thus, when users do not feel safe about their digital wallet, they will not store money in the digital wallet. In this case, users can use backed-up copy and password. This blocks the Internet connection, protecting users' wallet from hackers like it is in a pocket.

The essence of digital asset management is strictly administrating personal keys. Management of private key always has existed as a big difficulty for users. When private key is lost, they do not have any way to recover it, so almost all users choose to keep their assets in the cryptocurrency exchange. However, this can face with the crisis of asset thief and escape of platform, and it is also contrary to decentralization that has been originally intended.

GGOOUM platform creates dispersal asset management system for users, saves personal key by encrypting it and innovatively improves security of asset information by doing off-line signing and backup for loss prevention. The specific method is as follows:

First way is to choose "Cold Wallet" mechanism. Cold wallet authorizes the use of transaction by pairing the off-line signature with personal key in the off-line mobile phone, and it cannot be recognizable from other applications.

Second way is resetting the user's password with user's personal key. This method generates powerful password by operating millions of hash functions, encrypts the personal key into text-based cryptogram, and saves it in the file system. Users need to be authorized before proceeding transaction signature and enter password to unlock the Private Key. Even when it is not used it exists in the shape of encrypted texts, security level of Private Key and assets can be largely increased.

✓ **Account**

Individual customers who transact in the GGOOUM platform can gain personal account and process for ID authorization after registration of account is required. To perform cash refill, advanced authentication process should be executed which is uploading both sides of ID certificate with pictures of ID certificate.

✓ **Storage**

In GGOOUM platform, there are two types of out-of chain storage modules. IPFS is used for large files to out-of-chain storage, while structured storage is used to support structured records and structured query languages.

• **IPFS Module :** GGOOUM platform supports large file storage with IPFS technology. As stored in hash with access security, files can avoid data security accidents like incorruption and permanently secure   user information and electronic contracts. It also protects personal information from data leakage or omission.

• **Structured Storage Module :** Structured storage module is used for preserving structured record and synchronizing with blockchain record.

✓ **Privacy Protection**

• **Cryptographic Contract:** supports encrypted contract solution for smart agreement including personal information. The information for a smart contract in the cryptographic contract is encoded and so is the transaction calling a contract. The individual transaction uses Local Consensus Approach and the individual transaction execution is divided into two stages. First step is pretreatment and it changes private transaction into public transaction [S1 => S2] (S1 and S2 are the status of smart contract cryptograph text at execution of transaction), and the second step is binding [S1=>S2] with blocks as general transaction status.

• **Privacy Solution:** GGOOUM platform provides private data protection solution different from one another for various scenarios such as a multilateral computing and PGP communication. Through the secure multi-player computing, GGOOUM platform allows for a completely isolated access to Privacy Raw Data protection. PGP secure communication solution provides fast and safe data share service to GGOOUM platform.

■ 6.4 Blockchain Basic Service

✓ **Security Mechanism**

• **Symmetric encryption:** Symmetric encryption is one of the fastest and easiest encryption methods, and encryption and cryptanalysis use the same Secret Key.   Symmetric encryption usually utilizes relatively small keys (in general, below 256bit). It is not only security as a trade-off, but also efficiency must be managed together.

- **Asymmetric encryption:** Asymmetric encryption provides very safe method for data encryption and decryption, and this uses Public Key and Private Key as a Pair. Private Key can be held safely only by individuals and it cannot be sent to other people, and Public Key can be sent to anyone who requested. Asymmetric encryption uses only one key among Keys and needs another Key for cryptanalysis.

- **Private Key：** In case of Private Key it is held by users and is private 256 bit random number. Private Key is generally generated randomly in the system and it is the sole evidence to prove the user's right to use the account and possession of assets in the account. The length of valid bit is large enough not to be damaged and there is no security threats.

- **Public Key：** In each of Private Key there is a Public Key matching to Public Key. ECC Public Key by Elliptic Curve Cryptography can generate Private Key through one-way algorithm. The currently used systems include secp256r1 (International standard), secp256k1 (Bitcoin standard) and SM2 (Chinese national standard). GGOOUM chain and Initial data chain choose secp256r1 as the main system.

- **Hash Algorithm ：** Usually, hash algorithm refers to Security Hash Algorithm, SHA.This security hash function is the one designed by the national security institute in the US, and is a kind of encrypted hash which has been released by NIST (National Institute of Standards and Technology) including SHA-1, and is the transformed function of SHA-224, SHA-256, SHA-384 and HA-512. Bit coin uses SHA-256 algorithm now. All the algorithm except PoW refer to SHA-256 and use it in GGOOUM.

✓ Consensus Mechanism

Consensus Mechanism is a series of mechanisms designed based on the distributed ledger and it guarantees the accuracy and consistency of the stored information. It usually decides based on the requirements of the business and performance. Each node is implemented based on its own rule due to the Peer-to-Peer communication in the distributed system or the Peer-to-Peer network, and there isn't any dependence between each node. Therefore, a mechanism that guarantees the data consistency is needed. Consensus Mechanism of blockchain usually solves the problem of the people who compose the block and the method of maintaining the unity of blockchain. The theoretical basis of the problem is the Byzantine fault tolerance and the core of the Consensus Mechanism is the block composition and test. In the POW system, the process making blocks is generally called "Mining".

When the block chain selects the POW (Proof Of Work) as a Consensus Mechanism, the performance of computing consumed by each block becomes a foundation of its value. Moreover, in GGOOUM, each node can solve the problem in the real-world and provide the corresponding service. According to this, GGOOUM basically chooses Consensus Mechanism which is based on POW in order to guarantee the largest value of block chain. The key of POW is that as computing performance is higher, the possibility of mining of block becomes higher and the weight for maintaining security of block change increases.

However, since POW has an obvious defect like the slow transaction speed, the GGOOUM platform that is developed later on is designed in a module-style and it can be composed through control chain parameters. Through this, different private and public chains can be applied dynamically in different application scenarios. GGOOUM platform chooses the Application scenarios of GGOOUM and the Consensus Mechanism for Transactions so that each distributed node can ensure data consistency through an algorithm.

✓ Cross-Chain Communication Protocol (CBCP)

The communication protocol between blockchains are similar to one of the existing networks such as TCP / IP communication protocol and the message is delivered with the stable connection set. The message is divided into two parts of Header and communication Data. Message header records source, object, length and category of the message. The message header will be eliminated and modified by the level during the process of delivery and the Information will be delivered to the destination. And the delivery of the message is stateful, and the transmitter can give the correct

response by knowing the current communication status with the feedback from the recipient.

✓ **Equity Management**

Every user of the GGOOUM platform has the opportunity to become a verification node. Each node in the blockchain will get a complete data record, and the blockchain reliability and collective maintenance characteristics can be used to determine the rights of the owner of the equity.

■ **6.5 GGOOUM's 1ˢᵗ Core Technology [Virtual Animation]**

● **Technical characteristic:**

1. 15% power reduction by skipping file creation during video making.

2. 10% network traffic reduction by virtual based video transmission method.

3. Highly integrable and expandable with other technique by data picture way video implementation.

4. Green IT tech which reduces total resource, cost, energy, time and etc.
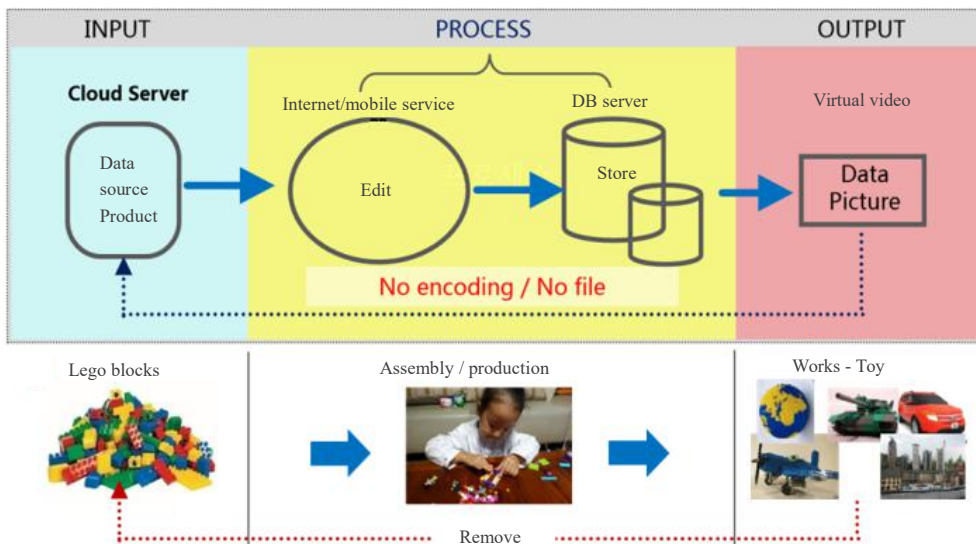
■ **6.6 GGOOUM's 2ⁿᵈ Core Technology [Android Hardware Optimization Tech]**

Android hardware priority and middleware technology
Maintain the same technology as Samsung and LG

Android OS Source modification
Linux Kernel based Android OS optimization
Board Firmware updates
Development of Android-based diversified KIOSK products
Android Driver development for various peripheral devices connected to the motherboard
ex) Printer, Camera, Card Reader, NFC, Touch Screen CCTV, POS

Hardware		Middleware	Software
Qualcomm chip TI OMAP chip Rock chip	Companies in China/Taiwan/Korea, etc.	Samsung, LG Production of smartphones, mobile devices Production of digital signage, KIOSK	More than 99% of IT companies worldwide are committed to APP development

■ 6.7 GGOOUM's 3rd Core Technology [PoDB Blockchain]

PoDB Principle of GOOUM CHAIN
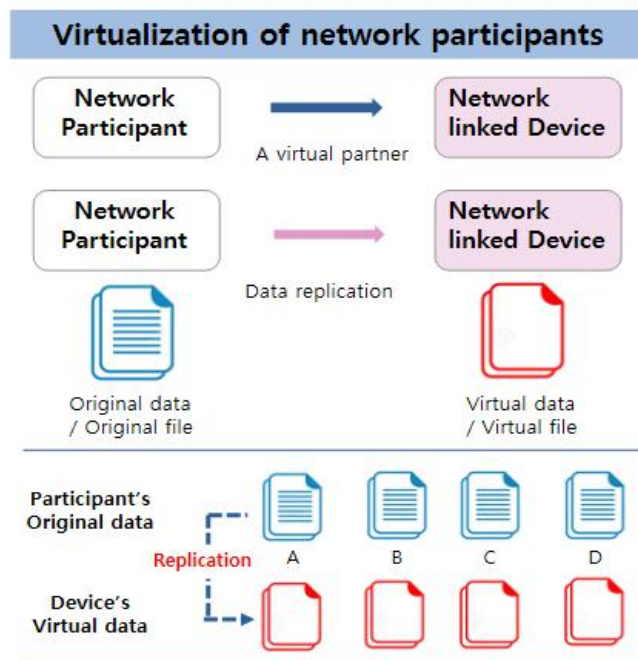
Initially, the network participant determines the virtual partners of the device connected to the network. After that, replicate the network participant's ledger files to the virtual partner and create another virtual blockchain.

■ 6.8 Advertising Service Based on Blockchain-GGOOUM CHAIN]

1. GOMC(GGOOUM CHAIN) proves the workload of contents through the blockchain technology.

2. GOMC TOKEN is mined based on the proof of assigned workload.

3. GOMC is able to determine the incentive criteria between users and sellers clearly and precisely.

4. GOMC provides objective data on consumption and supply of advertising resources.

✓ **Proof of employment**

GOMC (GGOOUM CHAIN) proves the workload
of contents for L-Road MyEasel, an internet product of things
connected to GGOOUM CHAIN platform through
blockchain technology.

✓ **Gaining GOMC TOKEN**

Users can advertise contents through smart digital signboard
and mine GOMC COIN by providing blockchain-based
contents (advertising and visual effect) on L-Road MyEasel.
(GGOOUM COIN will be mined based on the evidence
of amount of designated work)

Get GOMC

✓ **Plan for Incentives**

L-Road MyEasel's smart hardware is closely related to sharing
Business scenario. Especially, the blockchain technology
of GGOOUM CHAIN provides tools and procedures
clearly and precisely determining the incentive criteria
between users and sellers.

Proof of employment

✓ **Smart Advertising Management**

It provides advertisers with the objective data on

advertising location registration, sites, exposure frequency,

exposure time, the accuracy of advertising expenses,

advertising consumption and supply.

Smart advertising management

■ 6.9　Comparison of Features between PoDB Method and Other Methods

✓ **Known consensus algorithm**

Proof of Work (POW)
Proof of Stake (POS)
Delegated Proof of Stake (DPoS)

✓ **What are the common problems?**

POW : High power consumption. The more participants, the slower they get. Large mining group that monopolizes encryption capabilities.
POS : Duplicated transaction. Short range attack. Exclusive of cryptocurrency power by large stock groups..
DPoS : The speed of reaching a consensus is fast. However, only a small number of administrators are needed. These administrators are not centralized, but the cause of security loss increased the possibility of attacks.

✓ **Features and problems of the PoDB method**

1. Since it randomly chooses a representative, it is faster and the security level is higher than DPoS.

2. It can reach double agreement with the virtual partner. Therefore, Consensus Blockchain which has integrity and strength can be made.

3. The problem of PoDB is this can be realized only when there is a virtual partner, but we solve this difficulty with the hardware product.

■ 6.10 Blockchain-Based Digital Content Service as a Business Model

GOOUM CHAIN's first business model is the content service based on blockchain.

We have finished development with the related technology and now we are proceeding the 2nd upgrade.

GGOOUM CHAIN

Big Data | A.I | IoT

BlockChain Technology

Virtual Animation

☐ Confirm advertising rights
☐ Get GOMC (coin)

☐ Install MyEasel
☐ Provide advertising space and time

MyEase

☐ Purchase GOMC

☐ Acquire advertising resources

Advertiser (company)

Use GOMC to get products and services

Share the widely-sold products and services related to advertising rights

Provide products and services to get GOMC

Chapter 7   GGOOUM CHAIN's Technology

■ 7.1 GGOOUM Technology Overview

GGOOUM CHAIN patent technology provides technology that produces virtual videos and provides the relevant services based on virtual technology. Virtual, by semantic definition, is "treating something as if it's an actually existing fact or object even though it's not really there or the existence is unclear". Therefore, Virtual Technology can be defined as "technology that uses software technology to logically put physical resources into abstract images to not be bound by physical limitations therefore letting the relevant resources be separated or put together". In other words, it's making a fictional environment where physically, or actually the hardware doesn't exist or change but look like it's changed logically and provides a user-centered environment based on networks. When you implement this in a commercialized viewpoint, you can call it the "network based custom outsourcing services of IT resources".

Virtualization is the number one technology that is brought up when discussing saving resources and raising productivity, making it the main field that is being propelled in green IT technology. The field where virtual technology is applied the quickest is computing where Virtual Servers are already popularized, and as this technology develops, Cloud Computing is spreading quickly.

A Virtual Server is a technology making a physically nonexistent server exist on the software, and letting multiple users share it as if it is their own based on a network.

The patent application technology was invented by putting the concept of virtualization into video product, and the patent is currently applied in the World Intellectual Property Organization.

The application technology is broadly a combined technology that fuses IT and video technology, and it is

conceptually similar with the virtual servers in the Computing department. To summarize this kind of virtual video technology, it's a new way of video production technology that doesn't produce a file based on a network, and makes a video virtually to let the unlimited masses be able to use it as if it's their own video. Therefore, it is a new type of video service technology that is different from the existing technology in the process of video production and realization.

Going forward, virtual video technology is expected to replace existing video technology in certain areas. This is also predictable from the fact that the virtual server is starting to replace the existing server system structure. So far videos have been made only by experts and professional companies because they need to be backed up by high cost video equipment, professional labor, and a lot of money for filming, editing, encoding, and video transmission. In contrast, virtual video technology realizes a low cost-high profit system that cannot even be compared to the existing video technology. It lets everyone to produce, modify, and edit videos on the web remotely opening an era of user-centric video production including non-experts. Moving forward, in video production the concept of video infrastructure such as video production systems and software will start to thin and "network-based video production resources' customized outsourcing" will start to expand. Therefore, video production will face a new turning point by implementing a model, SaaS (Software as a Service), that borrows the production system in service form on the web.
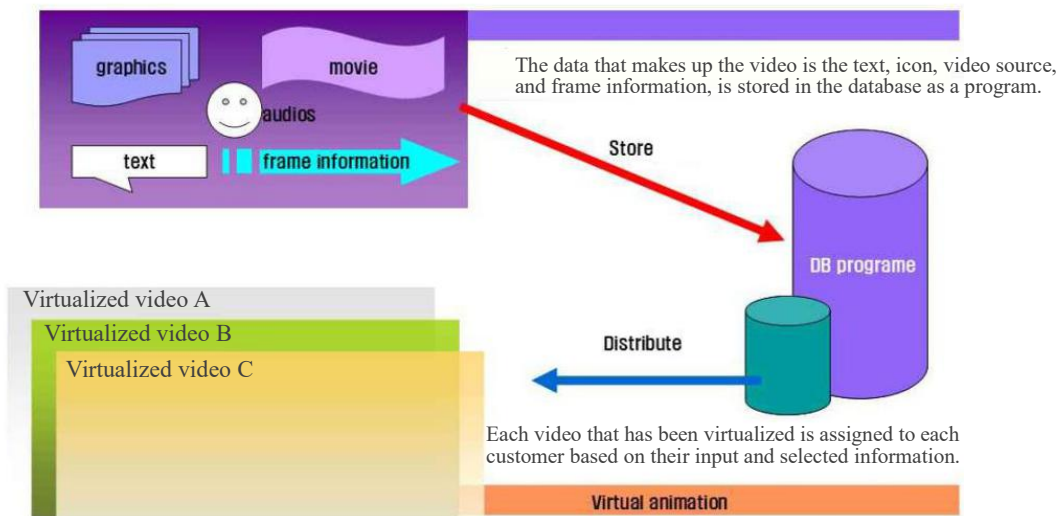
■ 7.2 GGOOUM Patent Technology Traits

✓ **Create a video without an encoding process**

The video components (text, sound, video, chart, frame information) will be virtualized when the video is created, and the virtualized video (artifact image) technology presented in the video is recombined when the information is stored in the DB, without video technology for generating video files and encoding. If the existing file video is in the mode of motion picture, the virtualized video would be the mode of data picture.

✓ **Assigning a number of virtual videos to the original video**

In the original video of the program design, unlimited virtualized video is allocated, and the user can freely modify and edit the virtualized video, and the technology can be used individually according to their own taste.

✓ **Unlimited revision, change, assembly for video**

By changing the video component information stored in the DB, the video content can be repeatedly revised anywhere and anytime, and the created virtualized video can be customized. Besides, it can be assembled or decomposed indefinitely.

Composed with the prior art, the dreamback technology is a non-encoding process which does not generate files. In the current technology, when the video is compiled, the encoding process must be performed before the relevant file can be generated. When a new video file is generated, the increase of file size will result in the increase of system capacity and system cost. As for the virtualized video

technology ,there is no need for an encoding process and no files will be generated, therefore the file will not be added even a number of videos is produced. It is able to control the unnecessary system capacity, reducing system costs.

<Depending on the presence or absence of the encoding process, the difference between the existing video and the virtual video>
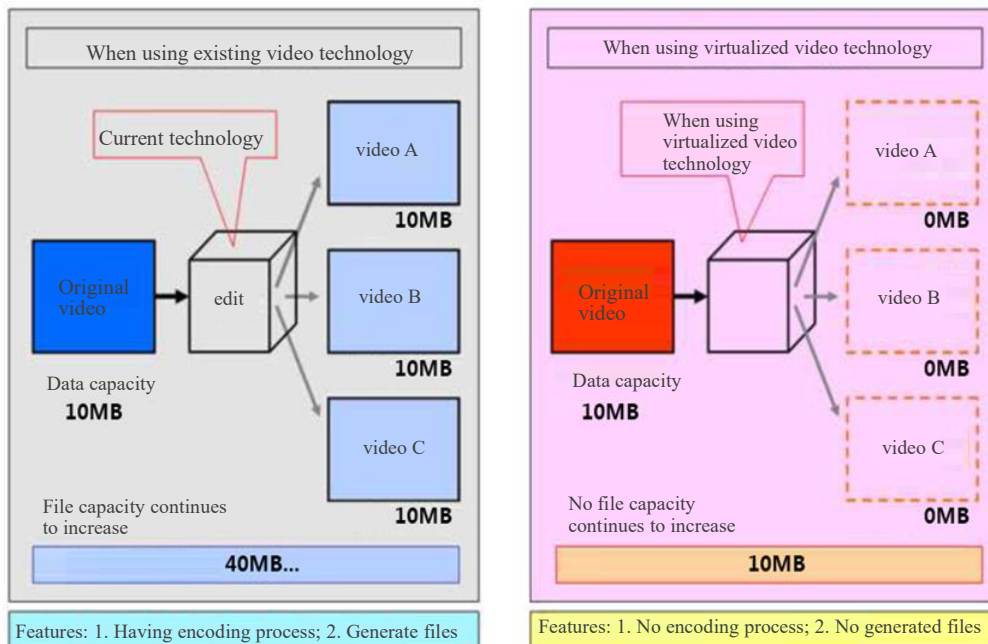
✓ **The differentiation of GGOOUM technology with existing or similar technology**

Compared to existing technology, the difference in GGOOUM technology is that it does not generate bitmap method files. Preexisting technologies had to go through an encoding process in production, and the corresponding bitmap file is generated. In other words, every time a new video is produced, a new video bitmap file is generated, and file capacity is hugely increased accordingly, which is inevitable for system capacity procurement and an increase in system cost.

However, virtual video technology does not require an encoding process, and only a tiny data source code is generated in video production instead of a bitmap file. Thus file capacity increases only slightly even if an infinite number of videos are produced.

As a result, unnecessary procurement of system capacity is restrained, and system cost can also be reduced significantly.

In order to help your understanding of the existence and nonexistence of the encoding process and corresponding file generation in video production, it is as follows comparing with the virtualization server technology in the computing field. The existing server is formed as a concept of one OS per server. Therefore, the corresponding amount of servers must be formed to realize each individual OS.

Likewise, in preexisting video production, one video holds one file, and every time a newly modified video is produced, a new file is generated. However, in virtualization server technology, the infinitely necessary servers are formed as a virtualization server, allowing one server to utilize an infinite number of OS. Similarly, virtualization video technology realizes every file generated for every video production in existing video technology into one video file that can be utilized for an infinite number of videos.

< Concept of Virtualization Server >
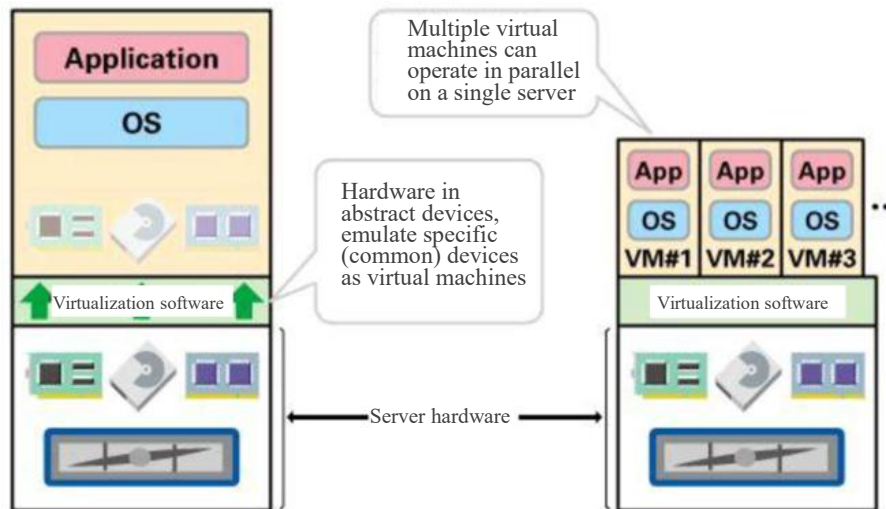
■ **7.3 GGOOUM Technology Advantages**

✓ **Unnecessity for independent secure of infrastructure for video production**

In case of the original video, it is inevitable to purchase and retain the basic infrastructure for video production (hardware and video production software such as video production system). But, in case of applicated technology, it offers the environment for using the massive resources such as the infrastructure for physical video production, the experience of video service, so it makes the new infrastructure for video production based on users embody with low cost and high efficiency. Also, in case of the infrastructure for existing video production, it is inevitable to secure and increase the

capacity of system according to the encoding procedure in the production procedure, but the technology for GGOOUM doesn't need it so, it plays a role to reduce the overage of IT resources as a result.

✓ **Flexible response for changing the environment for video production**

In just time for stream of time, the video production service also should be consistently revised and complemented. In response to such environmental changes, existing technologies require, physically, drastic costs and effort to secure the hardware and software. However, as for GGOOUM's technology, modifications and remedies can be conveniently made with the responding of the software alone.

✓ **The effect of innovative low-cost and high efficiency according to infinite original video use**

As described, in case of the technology for GGOOUM, the virtualization video is infinitely produced and distributed based on the one physical original video, and video details can be conveniently revised anywhere, at any time through the changing the information on video components stored in DB, and each video objectified can be infinitely assembled and disassembled. When it comes to existing video technology, trying to edit an already completed video means having to remake it from scratch. Thus, the concept of manufacturing costs is applied to overall production costs. However, with GGOOUM's technology, which allows unlimited use of the original video, manufacturing costs divided by the number of users is applied to production costs.

✓ **Applying convenience and scalability based on technology network**

GGOOUM's technology boasts technological convenience in all platforms. (offline, online, and mobile) Also, it has scalability that is customizable to different video clips. For example, when applied to
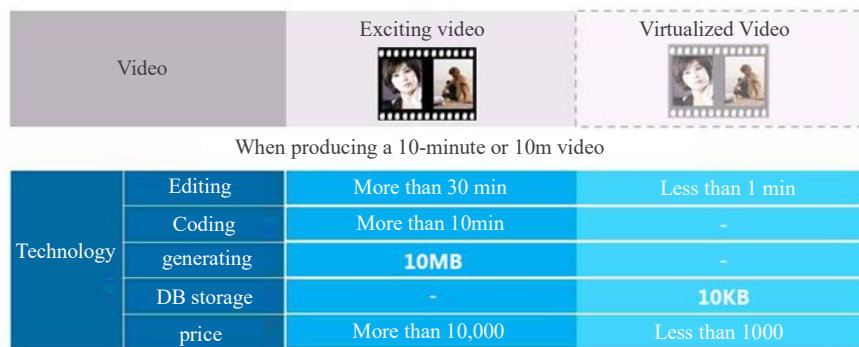
UCC(video clips), it becomes possible to connect with other videos for diverse effects, not to mention being able to add texts, images, and audio to uploaded videos.

When applied to a widget, more direct multimedia functions can be given. The easy production and editing of videos will contribute to the use of videos in websites, cafes, blogs, and mini homepages. Moreover, GGOOUM technology can be easily incorporated to display equipment such as monitors, IPTV, smart tv, and etc., and finally, it can be extended to personal video interior and the embodiment of personal broadcasting.

✓ **The level of GGOOUM technology compared to domestic and international technologies**

Virtualized video technology which is GGOOUM's technology is a new-dimensional video production and software technology, and it is unique domestically and internationally. Thus, the level of technology can be quantified in the following aspects by comparing it with the existing video technology. First of all, in terms of production time, the time required for the editing process is 1/10 of that of the existing level, and because the time needed for the encoding process is unnecessary, the overall production time can be shortened to at least 1/30. Second, in terms of the cost, in case of creating new video, as the file size won't be increased, the cost for the system remains same, and considering the aspect that infinite number of virtual video can be utilized by being distributed, modified, transformed and assembled from the original video, it will cost 1/50 or less compared to existing video.

< Existing Video Virtualization Video Differences >

Video		Exciting video	Virtualized Video
		When producing a 10-minute or 10m video	
Technology	Editing	More than 30 min	Less than 1 min
	Coding	More than 10min	-
	generating	10MB	-
	DB storage	-	10KB
	price	More than 10,000	Less than 1000

■ **7.4   GGGOOUM Technology Core Elements**

Original video recording technology is simply a process of dynamiting images. However, virtual recording technology not only dynamites images, also has a built-in program to reform structural information of the recordings, as well as the technology to distribute virtual recordings to unlimited number of people.

< Comparison of core elements of existing video technologies and virtualized video technologies >
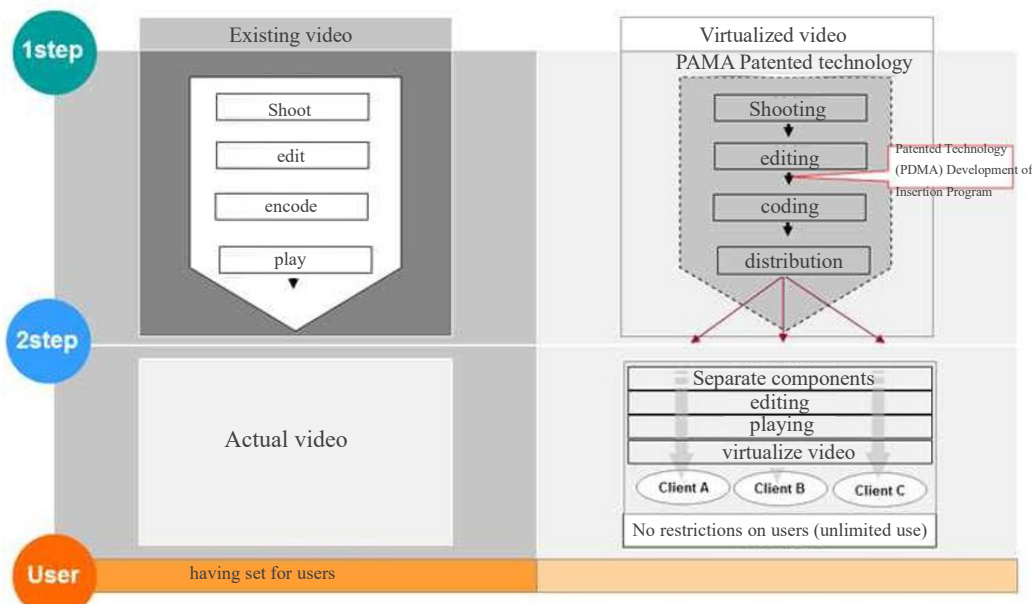
Virtual recording technology dramatically reduces recording expenses, maximizes the use of recordings and provides user-centered recording services; therefore, it is expected to be the new norm of video media, as well as the new paradigm of recording technology. Additionally, GGOOUM technology does not have a technical problem in applying to offline, online and mobile. The convenience of applying it on the software side will contribute to the improvement in video contents production technology, and to the quantitative and qualitative expansion of contents.

< Technology and economy of Dreamback patented technology >
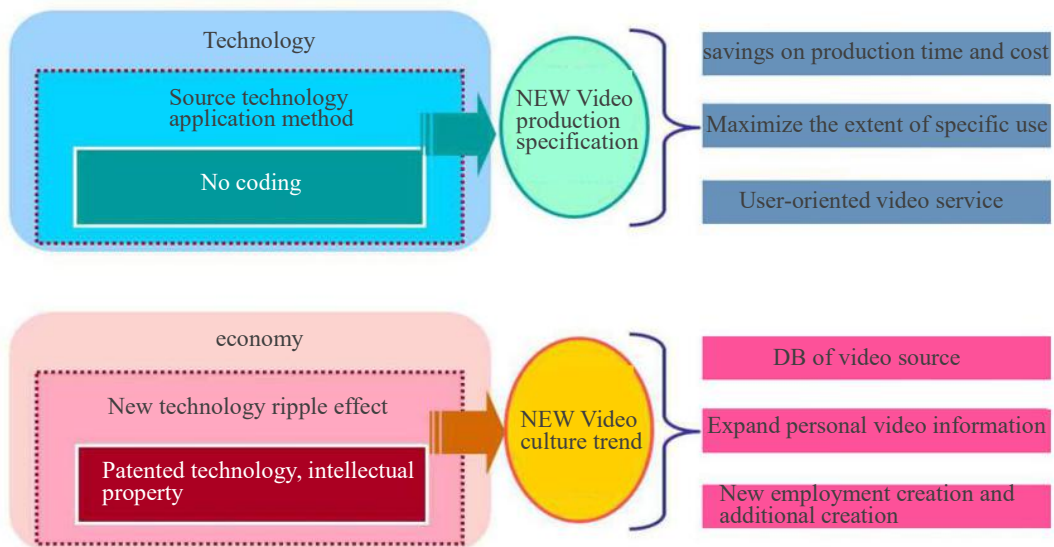
■ **7.5 GGOOUM Technology Application**

✓ **The individual-focused convergence combining with IT and the application of dreamback patented technology**

Evolution of IT technology fusion into individual-focused convergence and the market of application

technology. The recent IT technology convergence is evolving into individual-focused convergence which provides individual customers customized fusion service. In other words, each customer is provided with custom selected IT resources, contents, advertisements, etc through wired and wireless networks. GGOOUM technology is the best at accommodating this ongoing individual-focused convergence in media production technology.

✓ **Evolution from packaged products of IT resources to network-based service**

Thanks to the development of network infrastructure and web technology, network-based service has increased cost effectiveness. IT resources accessed through the network are provided in on-demand service type. GGOOUM technology provides a new market realm of network-based service, as it is a packaged product of video system and solution provided by the current video technology. GGOOUM technology is not only sold as a packaged product, but it is also provided as a type of service, which can fulfill various customers' needs based on consistent user experience.

✓ **The evolution from public media and media contents into lifestyle media**

The media market is a major component of the video market. During the recession of mass media and niche media market, personal media market is rapidly growing, based on the personalized & interactive life style that requires freedom, participation, activeness and connectivity that creates new consumption model.

GGOOUM technology, which as patent, can provide personalized market that allows passive media consumers to utilize the media easily.

✓ **GGOOUM's roadmap to utilization and improvement of patented technology**

Following the trend of commercialization of 'custom outsourcing service of network-based film editing source' and individual IT technology convergence, we will provide a package of media resource, contents, and video ads through SaaS platform. Also, based on gathered user information, we will commercialize the mediation between the contents users and the contents providers.
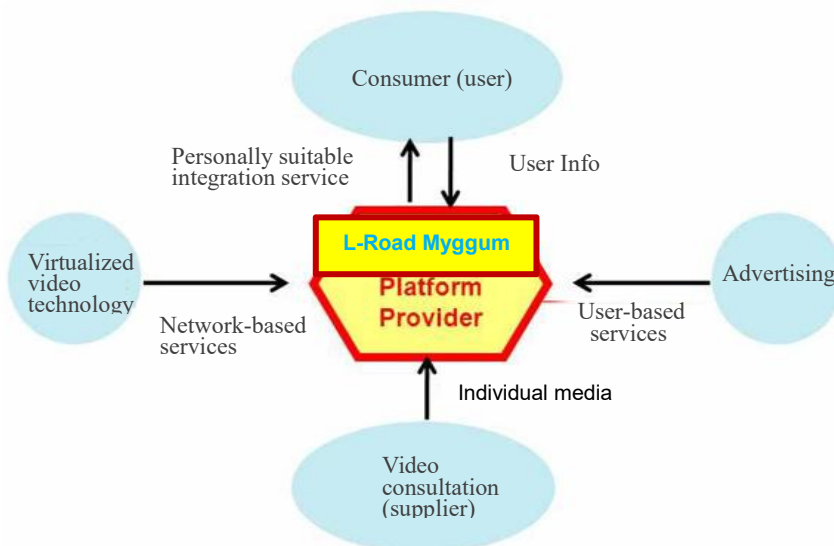

✓ **Business plan in various applicable areas**

The GGOOUM technology is applied in online and offline businesses on network basis, and is willing to start a business in MMS and wireless video services for mobile devices.

✓ **Carrying forward individual video services and video interior on offline basis**

Virtual recording technology creates tailored videos for any individuals and the recording can be streamed in different displays. In other words, an individual video service that can advertise, promote, broadcast, etc indoors and outdoors with a user based custom video through display devices such as to monitor, TV, digital frames, along with a new concept of interior business, "video interior" can be propelled.
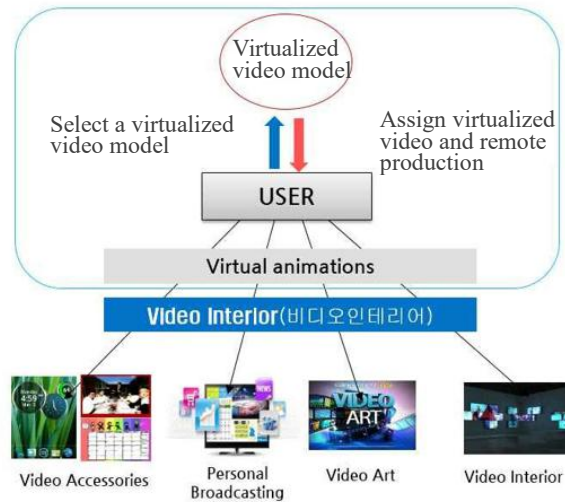
✓ **Commercialization of the concept of video widget based online**

Virtual video is a programmed video, which can be applied with many effects and functions. You can send virtually created videos via email, or connect it to internet websites, blogs, ucc and etc., as a video like a widget.
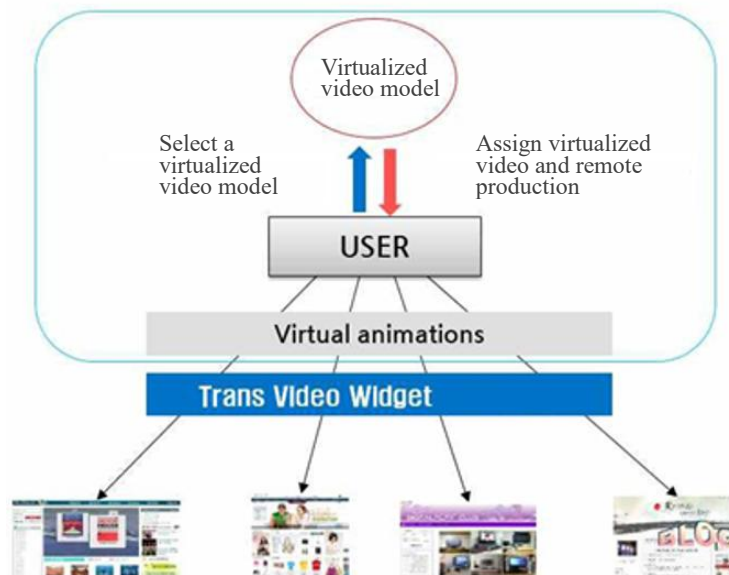
✓ **Commercialization of video brochure concept in mobile environment**

In mobile environment, virtualized videos can create tailored video catalog, video brochure, video card,

and etc., and virtually send it to pc or mobile devices via MMS service. Promotion and advertisement distribution paradigm changes from paper to digital clip; SNS service evolve SNS to image, image to video.

Mobile communication device

Computer and laptop
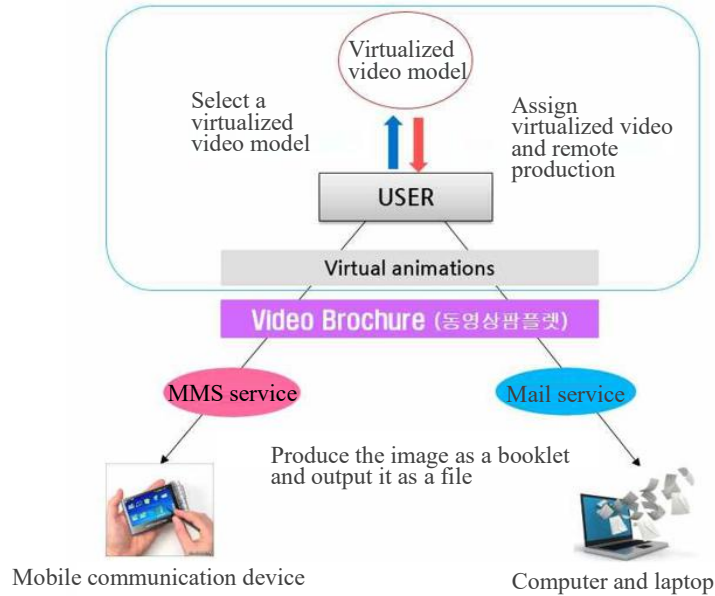
Contribution to the value chain of new video technology

Virtualized video technology is a technology that can play a key role in forming a new value chain called 'complex ecosystem' in marketing considering technical characteristics. Also, the provider of application technology is platform provider and it is intended to play a role as "keystone company" in such complex ecosystem. As a result, we want to provide a win-win case model for corporations.

Chapter 8 — Innovation Technology Support

■ 8.1 Virtual Video Creation Technology

In case that you produce a video using the virtual video creation technology of GGOOUM CHIAN, it doesn't create any files and it reduces the electrical power by approximately 15%, and it affects the broad casting based on virtualization and it re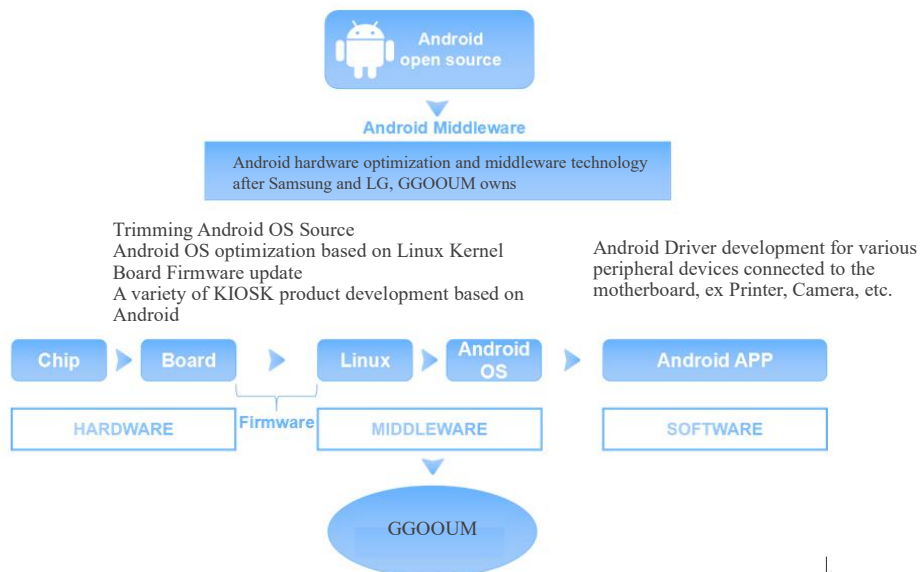duces the amount of data to be transferred by 1/10 or more, and it represents the video in the way of data picture and it can be easily merged and extended to the other technologies. Therefore, it is the green IT technology which can saves your resource, cost, energy, and time in overall.

■ 8.2 Optimization Technology

Android hardware optimization and middleware technology after Samsung and LG, GGOOUM owns

Trimming Android OS Source
Android OS optimization based on Linux Kernel
Board Firmware update
A variety of KIOSK product development based on Android

Android Driver development for various peripheral devices connected to the motherboard, ex Printer, Camera, etc.
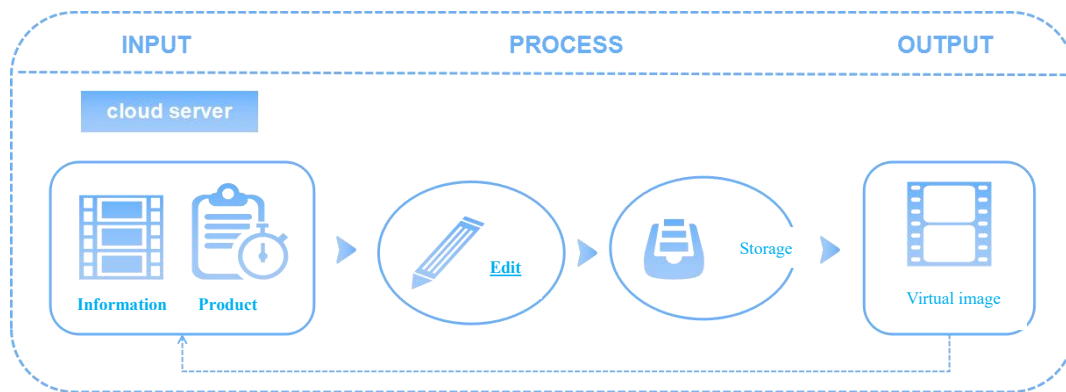
■ 8.3 DAG+BLOCKCHAIN

GGOOUM implements distributed system information and value interoperability based on blockchain and non-block chain using blockchain and two-layer side chain of DAG (Directed Acyclic Graph) system. It can accelerate the speed of processing the transaction as it has been designed with DAG as a core technology. It can achieve high availability as each block access the block beside in the block chain network of application of DAG.

■ 8.4 Post-quantum Cryptography

Post-quantum cryptography, which is also called by quantum-resistant cryptography, is regarded as the best cryptography system against the attack to the quantum computer. It's applied to the network communication in order to

achieve the goal of the protection of the data communication based on a complicated problem from a specific region of mathematics.

■ 8.5 Artificial Intelligence + Blockchain

The ultimate goal of artificial intelligence is to get machine to collect the knowledge from the massive data stream, and to learn intelligence, theory, technology and application system from human. The blockchain is concentrated on the logging, certification, maintaining the execution of correct data, while artificial intelligence determines, evaluates and understands specific patterns and data set and helps mutual interaction eventually.

The blockchain provides massive secured data storage environment. artificial intelligence needs to access to the large size open data for analysis and the blockchain can provide the AI algorithm with massive secured storage environment for a data storage. As the amount of data collected by artificial intelligence increases and the prediction and the evaluation of a machine get accurate, the reliability of the generated algorithm will be enhanced, and the learning effect of the machine will rise.

■ 8.6 GGOOUM's Innovative Mining Cloud Model

1. The features of Android platform service for GGOOUM CHANIN

① The graphic feature on the Android platform

Android is a software platform that executes a system, Middleware, and Application set. Kernel, the Android operating system has the Linux operating system and uses OpenGLES as graphic engine. Android platform is designed based on the 3D image API OpenGL image process which is replacing complex image processing and hardware control and providing hardware acceleration function for the Android system.

What is Hardware Acceleration? In general, it is a function proceeded by CPU and it serves to improve the system's performance after sending it to particular hardware. Another hardware that could work in this profession is GPU. In other words, Android platform has more roles in GPU based on OpenGL than original CPU. This is how Android is able to minimize the size of mobile devices and to operate under low-energy, increase their competitiveness in hardware and OS.

② Digital Currency Mining in Android Platforms

CPU originally works as a manager depending on the software's decisions and management details; however, GPU is similar to an operator that repeats the same task. GPU has ALU, the Iterative logic calculation device, and is able to perform substantially a greater number of tasks. In terms of structure, the inline processing of CPU consists of many optimal summation, but GPU has been designed for parallel processing by thousands of small cores.

The digital coin mining process is carried out through the simple and repeated mathematical calculation in a computer. The only element of the calculation process is to determine if there are valid area or inactivated area. The operational efficiency of GPU is much better than that of CPU to carry out the job.

All digital currency mining work is done through ALU, the number of available ALU directly affects execution outcome of hash. Digital currency mining is operated via ALU, which performs SHA256 hash using 1,000 simple math calculation levels. After all, it can extract the digital coin faster as the processing performance of GPU is much better than that of CPU. The efficiency of GPU of OpenGL Android platform basis is relatively higher than that of PC platform basis using general OS such as Windows.

③ The processing performance of GPU accelerating the performance of Android platform

Recently, the consumers and enterprises of the region of science, analysis, engineering, graphics and etc. is using both GPU and CPU simultaneously to enhance the calculation performance and processing speed of the computer so that it could improve the processing speed of the application program. GPU acceleration computer work, where calculation intensive part of the application program is transferred to GPU and CPU handles the rest of the code, provides the enhancement of the performance of the application program ever. This GPU is improving a lot the performance of

application programs used on various platforms from the various devices of Android platform basis to the smartphone, tablets, remote controlled airplanes, robots and vehicles.

2. Mining virtual coin on the mobile Android platform

Recently, such solutions as Minergate and ETN which is used for mobile mining virtual coin are introduced and it can be used on the most of Android platforms. But it couldn't play a role as a professional mining device as the mining efficiency isn't good due to the limit of the hardware of the mobile device. For example, most Qualcomm chips are being installed because the mobile device core of smartphone(CHIP) needs to support communication features. However, the Qualcomm Chip is more suitable for communication feature processing than image processing capacity. Recently, telecommunication companies (KT, SKT, LGT) started launching mobile devices with approximately 20-30 built-in applications. Since mobile devices belong to its individual owner, they can install any applications. Generally, you can install more than 40-50 applications in mobile devices including the built-in applications. Therefore, when the Android platform is running, remaining storage of the hard disk is not much on mobile devices like smartphones. As APP for mining also needs to be installed here, the cryptocurrency mining function can be considered unimportant..

3.GGOOUM CHAIN's cryptocurrency mining principles and methods

① The function of GGOOUM CHAIN's mining devices

GGOOUM CHAIN's digital currency mining is basically operated on the Android platform. The main mining units are Digital signage and KIOSK. These units are provided through On-screen Display processing in offline state with no communication features. Because these units use chips different from smartphone, the speed of communication is much faster and they are simpler to use than using the chat feature of smartphone. Unlike the communicational chip that is used in most cell phones, this device uses the Rock Chip, which works best for imaging technology.

Products that support GGOOUM CHAIN services do not need telecommunication company apps unlike other cell phones. To serve its original purpose, installation of 1-2 apps is required. There is no application that occupies hardware sources other than Android basic applications and APPs that serves its original purpose. Thus, it can provide outstanding mining environment, which is much better than mining technology of existing cell phones or mobiles.

GGOOUM CHAIN has superiority in competition for digital currency mining hardware compared to other mining hardware. First, the mining hardware device is Android platform of GPU basis. Second, chips which handle images and provide a specific function are installed unlike the general mobile devices. Third, it has an ability to compete in extracting virtual coin with a plenty of resources of hard disk space.

② Power supply and dispersion for mining

The mining through GGOOUM CHAIN is the type of dispersion. It is proceeded through the Android platform device provided by GGOOUM CHAIN service, and these devices are not concentrated in a specific space. As the offline customers need to use the device at low cost through GGOOUM CHAIN service to make their profit, the distribution and management have been done by connecting the network according to the original basic service. The dispersion of the electricity supply can be formed as the supplier of SPACE where the mining devices are installed, provide the electrical power. For your information, since android platform device uses lower electric power than PC device, you can economize mining cost.

③ Developing mining tech and way through GGOOUM CHAIN

L-Road Myggum

**Myggum
Android Coin Miner Structure**
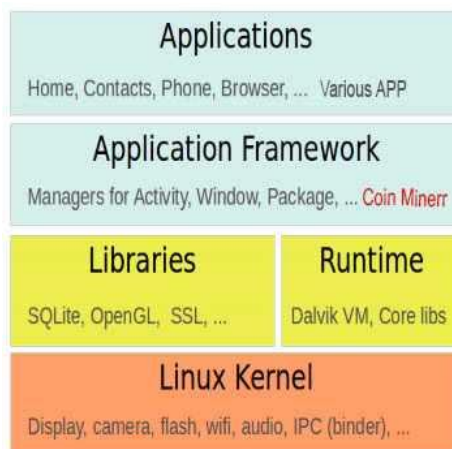
Applications
Home, Contacts, Phone, Browser, ... Various APP

Application Framework
Managers for Activity, Window, Package, ... Coin digger

Libraries
SQLite, OpenGL, SSL, ...

Runtime
Dalvik VM, Core libs

Linux Kernel
Display, camera, flash, wifi, audio, IPC (binder), ...

Multiple products with COIN mining capabilities

Install a variety of products for Android mining

Coin Miner Android Board

Kisok App — Coin Miner Application

Android OS

Android based digital tag, automatic server

Maintain original product features and 24-hour Coin mining

GGOOUM

Original product+ Coin mining + coin settlement

Coin mining features of Coin Miner products

Built-in digital marker, self-service machine product Coin mining machine
100% use the original skills of the product and use resources to limit resources for 24 hours
Require for no machine, space and cost (electricity fee) for mining, and the third Divice machine
is used for 24-hour mining.
product features + Coin mining machine + Coin settlement function

A. Developing GGOOUM mining tech

The structure of android platform is just like blueprint below. The structure of android platform is just like blueprint below. If additional mining technology is developed, embedded application is required to prevent exposure of Android platform's internal application Framework levels by users.

To develop mining technology, it usually proceeded with JAVA but it may be effective to proceed development by using C and C++ to get optimal performances and progressive features inside devices. In order to send digital currency and check mining information through the network, a separate safe application should be developed. The application should have components of independent models to prevent attacks from hackers.

Applications
Home, Contacts, Phone, Browser, ... Various APP

Application Framework
Managers for Activity, Window, Package, ... Coin Minerr

Libraries
SQLite, OpenGL, SSL, ...

Runtime
Dalvik VM, Core libs

Linux Kernel
Display, camera, flash, wifi, audio, IPC (binder), ...

B. Using existing mining applications

Various mining Apps that works in Android platform could be used. It takes a great deal of time and funds to develop independent GGOOUM CHAIN mining APP; thus, in the early stages of developing, using existing mining APPs is necessary. It should not trouble the original functions of GGOOUM CHAIN mining device, so when installing the APP, structural components must be used.

With appropriate permission, Android application can consist of 4 key components, or Activity, Service, Content Provider and Broadcast Receiver anytime. Generally, application programs can form key components by using Service that the programs themselves offer.

It is a such Component as the user can't see directly as the Service Component doesn't have UI, but operated by wireless in the background. For example, as like a media player, you can keep playing the music with no activation of the component. And you can use the service while monitoring network or working in the background. Because there is no UI, to connect, it can be used after accessing to ACTVITY of user commander.

4. The development of Android board and chip optimized for GGOOUM CHAIN mining

✓ **Optimized Android board development**

Android Board is constantly developing with improved performance of Chip. But the calculation process function of GPU on Android platform is not optimized to mining as the Android board or chip hasn't been developed for mining virtual coin. We will develop an appropriate Android board in advance in order to optimize the mining performance of GGOOUM CHAIN later on. The Android board which will be developed in advance will have dual use based on the installation of existing single cores, or 4 cores on it. The installation of existing single core improves the stability by dividing the original function of the drive device into such as core, mining core, communication and broadcasting core, security and platform management core and etc. We will develop the future-oriented device which guarantees creative technology for the future GGOOUM CHAIN service.

5. Reinforcement and redistribution of mining pool

Advertising companies access to GGOOUM CHAIN SDK in order to gain permission to use data by consuming GGOOUM TOKEN every year. They will voluntarily go to a GGOOUM CHAIN market, exchange GGOOUM TOKEN with community members, and pay them to the community. When GGOOUM community receives the TOKEN which they paid, 80% of the TOKEN will be returned to a fund for the mining of the community members to motivate them in mining, and the rest 20% will be used for the technology development and enterprise development fund.

Chapter 9 Project Development Planning

9.1 GGOOUM technology project development plan

Date	Development plan	Details
2018.09	**GGOOUM Chain project start**	
2018.11	**Singapore Dreamback Block Chain foundation establish**	
2020.07 ~ 08	**Angel Wheel Token Private Offering (Cornerstone Investment)**	Extending assets for expanding the size of the application program of global advertisement cloud computer power smart device for GGOOUM CHAIN. Offering addition discount for the initial subscribers of GGOOUM.. Exchangeable between GGOOUM TOKEN and common stock designated by company. Allocation of fixed rated of quarterly advertising earnings of group.
2020 3Q ~ 2021 2Q	**Basic State of Engineering**	Producing and managing the advertisement cloud computing equipment applied GGOOUM CHAIN technology, developing the basic blockchain technology and converting the distributed intelligent advertisement platform of GGOOUM CHAIN into online.
2020 3Q ~ 2021 2Q	**Basic Business for the Market**	Promoting the trial management of cloud computer equipment and collecting the GGOOUM CHAIN supernode and establishing the center at the area of Asia-Pacific as the starting point of each area of GGOOUM CHAIN service center. Implementation of common use application program for operating GGOOUM CHAIN ecosystem. Arrangement of global branch aiming at constructing perfect application program ecosystem for every market and community with local partner.
2021.06	**GGOOUM CHAIN Development Completion and Immigration**	Development and improvement of top blockchain platform. Completion of GGOOUM CHAIN immigration of Main Chain. Implementation of multiple business model architecture and code.

2021.08	**GGOOUM CHAIN** **Overseas Branch Foundation**	Launching major agencies of 5 regions in Asia Pacific. Management of multi-lingual community platform and market value and establishment of GGOOUM foundation for community business promotion. Improvement of GGOOUM market value management and continuous advertisement of world market for connection of global major exchanges.
2021 3Q~4Q	**Global Expansion, Optimization and Integration**	Expansion of ecosystem to 80% of regions in Asia-Pacific via advertisement cloud computer power intelligent terminal of dispersed intelligence advertising platform GGOOUM CHAIN network. Obtaining LU, LF and DB.
2022	**Business Development, Platform Improvement and Expansion**	Realizable continuous advertising earnings and income diversification by GGOOUM CHAIN dispersed intelligence advertising platform.
2022 ~ 2023	**GGOOUM** **Technology** **IPO**	GGOOUM Technology, promoting to be listed on the NASDAQ according to market performance of project and subsidiary. Scheduled to be completed in NASDAQ OTCQB for the first application of public offering.
2022 ~ 2023	The birth of 1 trillion global SMBD (Smart Media Big Data) business application ecosystem!	

■ 9.2 Public listing plan of SSINGAPORE GGUMTHEC LIMITED

GGOOUM has massive capital and financial operation plans. Depending on the development and readiness of the project, SINGAPORE GGUMTHEC LIMITED project could go public or the corporation could apply for IPO in Nasdaq, which is a success in the market economy.

If the revenue and income of the individual project is ideal, the investor can participate in GGOOUM TOKEN, the initial capital of the company, as being NASDAQ OTCQB listed company through separate IPO (based on market performance of SINGAPORE GGUMTHEC LIMITED and its subsidiaries).

If the company has its management performance of eligible to project listing, owners of TOKEN will have rights to exchange stocks of NASDAQ OTCQB. Owners of the token can exchange GGOOUM TOKEN to gift certificate of the company before 6 months of IPO subscription. The detail will be determined by the BOD.

After 12-month operation, if the performance of the group or particular project is satisfactory, NASDAQ mainboard listing will be followed. Before 3 months of determination of mainboard listing, GGOOUM TOKEN can be exchanged to regular stock that company designated, the stock swap plan will be notified to the investors 6 months before planned IPO date.

Chapter 10   **Board Management**

■ 10.1 Governing body

GGOOUM CHAIN Foundation Singapore ("Foundation" hereafter,) is responsible for development and construction of GGOOUM CHAIN, enhancement of transparency of the governance and expediting safe and harmonious development of open source ecological society. The Foundation will secure superb governance structure that helps managing general and particular issues of open source community project. Design purpose of foundation governance structure is mainly consider sustainability of open source community project; stability of management effect and raised fund. Foundations consist of ecosystem constructing center, technique research and develop center, marketing center and daily management center.
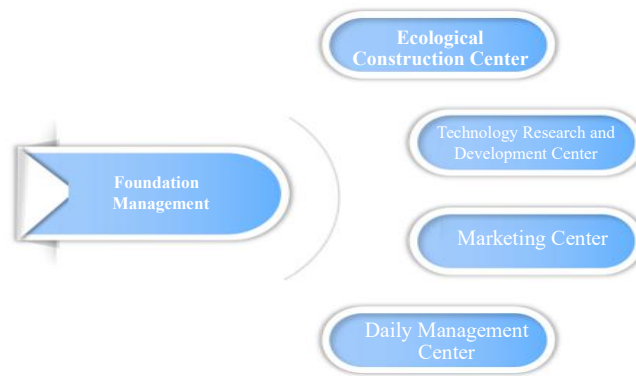
■ 10.2 Board of Directors

The board of directors of GGOOUM CHAIN is the highest managing entity, and under the responsibility of it, Every development strategies of GGOOUM CHAIN are selected, TOKEN distribution rules are decided, overall controlling is operated. Management operation committee consists of some members from The board of directors of GGOOUM CHAIN, main investors and users of platform. It is mainly in charge of GGOOUM's brand building and daily operation management, as well as the R&D of GGOOUM CHAIN's basic platform and the development of commercial applications. GGOOUM CHAIN   Technology Committee is in charge of GOOUM CHAIN technology architecture and the control of other technical aspects. The supervisory board consists mainly of some board members and key investors to supervise the daily management of GGOOUM CHAIN.

■ 10.3 Cornerstone Investment third party supervision system

Capitals invested in GGOOUM CHAIN is 100% secured through Freedom Life International. This unique financial structure gives investors a sense of trustworthiness. FLI is the-third-party consigned investment capital administration system based on the first Block Chain technology in Singapore. Although combination of block chain tech and finance not only offers better security function, but also personalize and objectify product, there is still many matters to investigate and improve.

FLI is a PCC, an International Insurance Company holding a license and is strictly regulated and managed by Financial Services Inspection Commission of The Republic of Mauritius. FLI provides customers the investment options,

high-quality products, superior services, tax effectiveness and especially perfect security system in effective and unique combinations.

Republic of Mauritius is the international financial center with enhanced business district providing the unique combinations of flexibility, effectiveness, security and confidentiality. Protected Companies Regulations 1999 states that all assets and debts, as well as the portion of insurance contractor mused be protected by different organizations in order to ensure the safety of funds. Dual structure system and administrator, which are provided to investors for responsibility and security, differentiates Republic of Mauritius from other regions, which provides the best security and trust for its customers. This guarantee is provided by regulation and monitoring of the dual system and fulfilled in the Republic of Mauritius.

As FLI provides customers the easily understandable Turnkey investment Provisioning solutions including previously authorized investment products, it lowers the tax burden and gives the options of self-managing portfolio providing the personal information securities.

The financial structure Freedom Life International will secure sincerity and originality by monitoring every money that GGOOUM Token has procured and will suffice needs or customers that requires advanced security. With the combination of block chain and financial industry, customers will have its rights of personal information and innovatively block ethical risk with the perspective of risk management of invested capital.

10.4 Strategic partners

SINGAPORE GGUMTHEC LIMITED

GGOOUM CHAIN ecosystem is dispersal platform realizing decentralization. Main operator is SINGAPORE GGUMTHEC LIMITED and it responsibly fulfill the all related works of developing, advertising and managing business. GGUMTHEC foundation is nonprofit organization and host institution is SINGAPORE GGUMTHEC LIMITED and is registered in Singapore. GGUMTHEC foundation is in charge of building up, diffusing, and operating the open community of GGOOUM CHAIN. The main purpose of GGOOUM CHAIN Open Community is to procure technical developer

and institution and perform continuous technical optimization and upgrade to the development tool and advanced tool regarding overall society.

Blockchain Investment Limited（BCI）

This new type of investment technology service company is involved in blockchain value creation by BM Huijun group Hong Kong, which is professional one-stop block chain financial incubation platform. It puts emphasis on project's initial business model and packaging service. This enterprise includes BCI blockchain business school, IPO listing consulting business school, blockchain finance etc. With blockchain technology, it can integrate between the existing industries, IoT, Internet, E-commerce, AI, and other big data business application, designing a perfect closed business loop, and also can realize the ultimate purpose help to enlarge the market value of company's blockchain project by overlapping blockchain finance, IPO, and special funds.

BMI 그룹

Established in 1995, This company provides one-stop business consulting services for the listed companies, including consulting of company financial affair, company evaluation, secretary service, company communication, project planning, professional translation, stock registration, internal controlling and risk management. BMI has lots of experience in the work of processing rules and procedures of advance and post-listing operations. Connected companies now in 2020 that we offer service are listed in China, Hong Kong, Singapore, Thailand, Taiwan, U.S., Japan, Australia, and Canada.

Core technology that L ROAD MYGGUM have is divided into two parts which are software and hardware, and hardware is for Android Platform optimization technology, and software is for Virtual Animation technology. Android Platform optimizing technology is important one that enables App developing, and to operate hardware OS technology by connecting related surrounding equipment with Firmware technology from Android Board BIOS and Android OS optimizing technology on the Android board. And this company holds unrivaled power in this field.

Chapter 11   GGOOUM TOKEN Distribution Plan

11.1 Total Issuance

Token Name: GGOOUM CHAIN TOKEN (GOMC)

In order to meet requirements for online operation of GGOOUM CHAIN Platform and GGOOUM Cloud business operation, GGOOUM CHAIN TOKEN (GOMC) was issued based on Ethereum before the online network of GGOOUM Chain was launched. Main network of GGOOUM CHAIN will change after going online, and GOMC will perform mapping to GGOUM Chain in order to enhance GGOOUM chain environment. Total amount of GOMC is limited to billion, and the current price of GOMC is reflecting real value of the project. The number of coin that GOMC own will determine value of project benefit of the users that received voted benefit, along with vote ratio of Super Node. As GOMC mining and the number of GOMC currency holders increase, the number of people who take part in reward is getting higher and to gain GOMC will get harder and harder because the mining distribution a day is limited. Additionally, as written on the GGOOUM CHAIN's annual operation plans, we will provide diverse community activities for users, attracting more individual and corporate users, and maintaining healthy operational system for GGOOUM CHAIN platform ecosystem.

Once a user participates in activities that started through GGOOUM platform, the Smart Contract automatically creates GOMC. The total worth of produced GGOOUM TOKEN is limited to 1 billion. It will not be produced over the limit. 70% of mining is rewarded to users(miners), which protects their rights and interests, and improves market environment.

In order to guarantee proper operation for GGOOUM CHAIN community, to develop the community safely, and to invest in applied programs and platforms, the rest 30% will be used for establishing the business.

11.2 Smart contract security audit report

Audit No.：201904221001

Audit Contract Name：

GGOOUMCHAIN Token (GOMC)

Audit Contract Address：

0xc3fc3549e50c68662c21649f3F6D88e28271498F

Audit Contract Link Address：

https://etherscan.io/address/0xc3fc3549e50c68662c21649f3f6d88e28271498f#code

Contract Audit Start Date: April 19, 2019

Contract Audit Completion Date: April 22, 2019

Audit Result: Pass (excellent)

Audit Team: BEOSIN Technology Co., Ltd.

Audit Type and Result：

No.	Audit Type	Audit Sub-item	Audit Result
1	Code specification audit	ERC20 Token standard specification audit	Pass
		Compiler version security audit	Pass
		Visibility specification audit	Pass
		Gas consumption audit	Pass
		SafeMath feature audit	Pass
		Fallback function use audit	Pass
		Tx.origin use audit	Pass
		Deprecation audit	Pass
		Redundant code audit	Pass
		Variable coverage audit	Pass
2	Function cell audit	Function call permission audit	Pass
		Call/delegatecall security audit	Pass
		Return value security audit	Pass
		Self-destructive function security audit	Pass
3	Business security audit	Owner authority audit	Pass
		Owner logic audit	Pass

		Business realization audit	Pass
4	Integer overflow audit	-	Pass
5	Re-entrant attack audit	-	Pass
6	Abnormally reachable state audit	-	Pass
7	Transaction order dependency audit	-	Pass
8	Block parameter dependency audit	-	Pass
9	Pseudo random number generation audit	-	Pass
10	Denial service attack audit	-	Pass
11	False recharge audit	-	Pass
12	event security audit	-	Pass

Note : For audit option and suggestion, please refer to the code annotation

Audit opinion : This audit is done within the given area of type of audit and result table while other unknown security vulnerabilities are out of the responsibility area of this audit. BEOSIN Technology is responsible for the report that is limited to the attack or weakness before publishing of this report. BEOSIN Technology is not responsible of any future attack or weakness that exist or may arise, nor determine effect of the security situation based on reasonable contract. Analysis of the security status and other contents of the report is based on the document or information that contractor provided to BEOSIN Technology on the publishing date. Modification, deletion, or lack of reflection may not consistent with the current situation of documents and information and BEOSIN Technology is not responsible for any consequential loss or adverse effect.

Explanation of audit result：

The company will perform comprehensive multi-dimensional security analysis of smart contract GOMC code standardization, security and business logic with regular authentication, dynamic/static analysis, normal case test and manual review. After analysis, GOMC contract will pass every test component, and the result is superb, and the contract may be used normally. The basic information of the contract is as follows.

1、 Basic information of token

Token name	GGOOUMCHAIN Token
Token symbol	GOMC
decimals	18
totalSupply	1 billion（fixed total）
Token type	ERC20

Table 1 basic information of token

2、 Information about token locked position

No locked position

Contract source code audit ntoes：

```solidity
pragma solidity 0.5.7;


/**
 *      @title SafeMath
 *      @dev Unsigned math operations with safety checks that revert on error.
 */
library SafeMath {
/**
* @dev Multiplies two unsigned integers, reverts on overflow.
*/
function mul(uint256 a, uint256 b) internal pure returns (uint256) {
// Gas optimization: this is cheaper than requiring 'a' not being zero,but
the
        // benefit is lost if 'b' is also tested.
        // See: https://github.com/OpenZeppelin/openzeppelin-solidity/pull/522 if (a == 0) {
        return 0;
}


uint256 c = a * b; require(c / a == b);


return c;

}


/**
* @dev Integer division of two unsigned integers truncating thequotient, reverts on division by zero.
*/
function div(uint256 a, uint256 b) internal pure returns (uint256) {
// Solidity only automatically asserts when dividing by 0 require(b > 0);

        uint256 c = a / b;
```

```
        return c;
```

/**

```solidity
function sub(uint256 a, uint256 b) internal pure returns (uint256) { require(b <= a);
uint256 c = a - b;

return c;
}
```

```solidity
function add(uint256 a, uint256 b) internal pure returns (uint256) { uint256 c = a + b;
require(c >= a);

return c;
}
}
```

```solidity
contract GOMC {

using SafeMath for uint256; // BEOSIN // introduce SafeMath library for secure math operations
string public constant name = "GGOOUMCHAIN Token"; // BEOSIN // the token name is
```

GGOOUMCHAIN Token

```solidity
string public constant symbol = "GOMC"; // BEOSIN // the token is referred to as GOMC
uint8 public constant decimals = 18; // BEOSIN // the token accuracy is 18

uint256 private constant INITIAL_SUPPLY = 1e9;
uint256 public constant totalSupply = INITIAL_SUPPLY * 10 ** uint256(decimals);
```

// BEOSIN // the total amount of tokens is 1 billion

```solidity
address public constant wallet = 0x873feD29d4cFcCB1E4919e98DEA88b2725B15C33;//

 BEOSIN // contract wallet address

mapping(address => uint256) internal balances; // BEOSIN // declare variables to store token balances at
specified addresses

     mapping (address => mapping (address => uint256)) internal allowed; // BEOSIN // declare
variables to store authorization quotas among specified addresses

event Transfer(address indexed from, address indexed to, uint256 value); // BEOSIN

 //declare token transfer event

event Approval(address indexed owner, address indexed spender, uint256 value); // BEOSIN // declare setting
authorization quota setting event

/**

* @dev Constructor.

*/

constructor() public {

balances[wallet] = totalSupply; // BEOSIN // send all tokens to contract wallet address

emit Transfer(address(0), wallet, totalSupply); // BEOSIN // trigger token transfer event}


     /**


     * @dev Gets the balance of the specified address.

     * @param   owner The address to query the the balance of

function balanceOf(address _owner) public view returns (uint256) { return balances[_owner]; // BEOSIN // return
address_owner token balance

}

/**

*        @dev Function to check the amount of tokens that an owner allowed toa spender.

*        @param _owner address The address which owns the funds.

*        @param _spender address The address which will spend the funds.

*        @return A uint256 specifying the amount of tokens still available forthe spender.

*/

function allowance(address _owner, address _spender) public view returns (uint256) {

return allowed[_owner][_spender]; // BEOSIN // return_owner authorization quota to_spender

}

/**
```

```
 *       @dev Transfer token for a specified address
 *       @param _to The address to transfer to.
 *       @param _value The amount to be transferred.
 */

function transfer(address _to, uint256 _value) public returns (bool) { require(_to != address(0)); //
BEOSIN // _to non-zero address check

require(_value <= balances[msg.sender]); // BEOSIN // transaction amount check, requiring transaction amount no
greater than current balance of the caller msg.sender
```

balances[msg.sender] = balances[msg.sender].sub(_value); **// BEOSIN //** **red**
uce token balance of caller msg.sender

balances[_to] = balances[_to].add(_value); **// BEOSIN // increase transfer destination address_to token balance**

emit Transfer(msg.sender, _to, _value); **// BEOSIN // trigger token transfer event**

return true;

}

/**

* @dev Approve the passed address to spend the specified amount of tokens on behalf of msg.sender.

* Beware that changing an allowance with this method brings the risk that someone may use both the old

* and the new allowance by unfortunate transaction ordering. One possible solution to mitigate this

* race condition is to first reduce the spender's allowance to 0 and setthe desired value afterwards:

* https://github.com/ethereum/EIPs/issues/20#issuecomment-263524729

* @param _spender The address which will spend the funds.

* @param _value The amount of tokens to be spent.

*/

// BEOSIN // recommend increaseAllowance and decreaseAllowance function modification authorization quota

function approve(address _spender, uint256 _value) public returns (bool) { require(_spender != address(0)); // **BEOSIN // _spender non-zero address check** allowed[msg.sender][_spender] = _value; **// BEOSIN // set function caller msg.sender**

Authorization quota to_spender is_value

emit Approval(msg.sender, _spender, _value); **// BEOSIN // trigger authorization quota setting event**

return true;

}

/**

* @dev Transfer tokens from one address to another

* @param _from address The address which you want to send tokensfrom

* @param _to address The address which you want to transferto

* @param _value uint256 the amount of tokens to betransferred

```solidity
function transferFrom(address _from, address _to, uint256 _value) public returns (bool) {

require(_to != address(0)); // BEOSIN // _to non-zero address check
```

// BEOSIN // transaction amount check, requiring transaction amount no greater than current balance of transfer source address_from and authorization quot of_from to function caller msg.sender

```solidity
require(_value <= balances[_from]); require(_value <= allowed[_from][msg.sender]);
```

```solidity
balances[_from] = balances[_from].sub(_value); // BEOSIN // reduce token balance of transfer source address _from

balances[_to] = balances[_to].add(_value); // BEOSIN // increase token balance of transfer destination address_to

allowed[_from][msg.sender] = allowed[_from][msg.sender].sub(_value); // Chengdu Lian'an // reduce authorization quota of transfer source address_from to function caller msg.sender

emit Transfer(_from, _to, _value); // BEOSIN // trigger token transfer event

return true;
}

/**
 *       @dev Increase the amount of tokens that an owner allowed to aspender.
 *       approve should be called when allowed[_spender] == 0. To increment
 *       allowed value is better to use this function to avoid 2 calls (and wait until
 *       the first transaction is mined)
 *       From MonolithDAO Token.sol
 *       Emits an Approval event.
 *       @param _spender The address which will spend the funds.
 *       @param _addedValue The amount of tokens to increase the allowance by.
 */

function increaseAllowance(address _spender, uint256 _addedValue) public returns (bool) {
require(_spender != address(0)); // BEOSIN // _spender non-zero address check

allowed[msg.sender][_spender] = allowed[msg.sender][_spender].add(_addedValue); // BEOSIN // update authorization quota of function caller msg.sender to_spender

emit Approval(msg.sender, _spender, allowed[msg.sender][_spender]); //BEOSIN // trigger authorization quota setting event

return true;
}

/**
 *       @dev Decrease the amount of tokens that an owner allowed to aspender.
 *       approve should be called when allowed[_spender] == 0. To decrement
 *       allowed value is better to use this function to avoid 2 calls (and wait until
 *       the first transaction is mined)
```

*   From MonolithDAO Token.sol

*   Emits an Approval event.

*   @param _spender The address which will spend the funds.

*   @param _subtractedValue The amount of tokens to decrease the allowanceby.

*/

```
function decreaseAllowance(address _spender, uint256 _subtractedValue) public returns (bool) {

require(_spender != address(0)); // BEOSIN // _spender non-zero address check

allowed[msg.sender][_spender] =
```
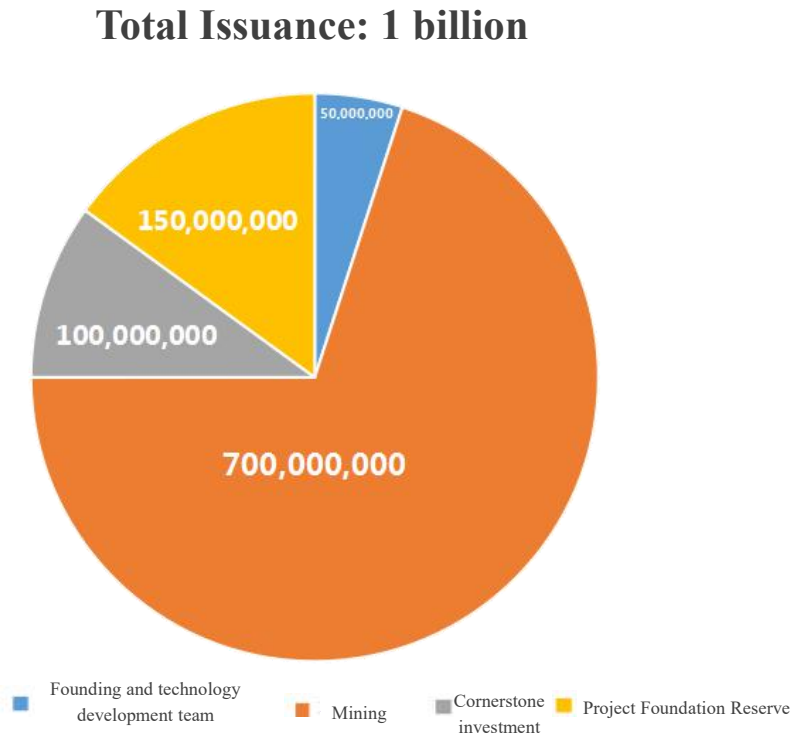
```
allowed[msg.sender][_spender].sub(_subtractedValue); // BEOSIN // update authorization quota of function caller msg.sender to_spender

        emit Approval(msg.sender, _spender, allowed[msg.sender][_spender]); // BEOSIN // trigger authorization quota setting event

        return true;

    }

}
```

11.3 Distribution Plan

The detailed distribution method of GGOOUM TOKEN is described below:

Total Issuance: 1 billion

50,000,000

150,000,000

100,000,000

700,000,000

■ Founding and technology development team ■ Mining ■ Cornerstone investment ■ Project Foundation Reserve

● Smart Ad cloud equipment mining production: 70%

● There are two stages in mining. In the first stage, 10,000 tokens are produced every day in 30-day period. The production increases by 10% every period. The increment is 36 periods. After the second stage, the 36th period, when the mining ends 1080 days since it began, daily production does not increase or decrease. The mining will take place for 3,252 days in total.

● Project fundraising reserve: 15%, this fund is for GGOOUM ecosystem's infrastructure, investment attraction, business cooperation, advertisement, and perfection of project ecosystem. The utilization of this fund needs to be agreed upon by the foundation and need to be disclosed in advance.

● Cornerstone investment: 10% will be used to initiate early investor attraction, and early investors will contribute to group construction, and platform management.

● 5% will be compensated to GGOOUM CHAIN founding organization and technology research group.

11.4   Using plan for fundraising

Raised fund will be used to expand production ability and R&D part of company; equipment GGOOUM manufactured will be distributed for free in concentrated shopping district. To return the funds quickly and to sell computing ability of equipment to cloud, seller has the right to buy equipment first.

10% of its computing technology will be allocated to the business that provides venue, and the rest 90% will be allocated to the company. There is an advertising space for sellers to upload their advertisements and a prioritized activity mark. Rest will be managed and redistributed by the company.

Risk warning

Risk of losing tokens due to loss of certificate

Buyers' tokens are highly likely to be connected to their GGOOUM account before it's distributed to them; however, in order to log in to the account, buyers must use their log-in certificates. Once the certificate is lost, the tokens cannot be obtained. The safest way to store your log-in certificate is to divide it into more than one location. It is best not to save or expose to the working place.

Risk of Agreement

Since GGOOUM token and the application is developed based on blockchain technology, token or GGOOUM application may not or lose function in unexpected ways because of unrecognized function problems or hacking.

Risk of liquidity

You may find it difficult to resell the tokens if the project does not successfully start, or due to unexpected reasons and rule changes. You should not participate in this project if you are going to cash out GGOOUM tokens in need of urgent funds.

Other unpredictable risk

Cryptographic currency is a new and imperfect technology. Thus, other than risks mentioned in this or by GGOOUM staffs, there are risks that are not expectable and could happen suddenly.

Other instructions

Please completely understand the risks of blockchain industry and development plans of operating system. Otherwise, we recommend not to purchase from the early bird sales.

If you do purchase, we will consider that as you have understood and agreed to the terms of use of the rules.

Disclaimer

This document is used only for informational purposes and is not associated with the sales, suggestion, or invitation for stocks or securities. This document should not be

considered as articles for sales nor purchases. It is not any form of contract or promise.

The written goals written here may change due to unexpected events; however, our team will try our best to achieve all the goals previously mentioned. All individuals and groups who are purchasing GGOOUM tokens must take full responsibility for its risks. As the project progresses, documents may be updated according to newly written whitepapers. We will make announcements or post new whitepapers on the website to update the contents.

This document is to pass on the information regarding the project to the individuals who actively request them. This is not a form of future investment advice, contract or promise.

GGOOUM clearly stated that they are not responsible for direct or indirect losses of participants, including the following component:

1) When participating in digital asset distribution plan, participants must understand the risks of projects and willingly undertake the following outcomes. The project staffs did not guarantee profits and clearly stated that they will not be responsible for direct or indirect losses caused by the project.

2) Digital assets, included in this project, were a virtual digital code used in trading links and do not mean project assets, or rights to profit or control.