



Create your Business Easy

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1. Introduction

1.1. Outline

BLOOD is a basis that retains BLOODLAND, and is an important economic means of BLOODLAND. In order to retain BLOODLAND, programs of various forms are designed to be connected, and BLOOD is used to help those programs be operated smoothly. As Google is consisted of many services to retain its world presence, BLOODLAND also is consisted of many programs to be retained.

They are BLOODLAND with Quadkey vision (the actual screen shown) sharing technology in plan; Quadkey item consisting BLOODLAND; compensation system with Quadkey item as a base; BLOOD compensated with the relevant compensation system; DEX system that allows exchange between BF3 (token) within BLOOD; and BLOOD TALK that allows confirmation of BF3 holding amount, and transfer and communication between users BF3. All of these compose basic outlook of BF3, which can freely be created by users through BLOOD Mainnet.

BLOOD Mainnet is a public blockchain network of a new concept with BLOODLAND as its base, and it is based on node participation of the owners and compensation on the participation.

In order to secure versatility, it is designed based on JavaScript to enable the issuing of all subordinate BF3. So, developers can participate in the community more abundantly and freely, and general users, who are not developers, can also easily issue tokens through SDK on the web.

1.2. BLOOD Vision

Four core elements, BLOOD is aiming for are in 'connection'. By having all the information, places of use, outlook, and people being connected, we aim to reach the actual use in real life at the end.

The 4th Industrial Revolution is in progress not only in the industry of blockchain, but also in many others, including IoT, robotics, AI, and autonomous vehicle. However, historically, it is hard to call it a stage of a revolution that is overcoming the internet.

We started from a study on 'what kind of role does the blockchain play in the 4th Industrial Revolution, which was made to allow storage and management between individuals without an organization, by supplementing the limits of internet, which information processing is done in through a server'.

With its benefits of guaranteed transparency, being impossible to be forged, and easier sharing of information, blockchain is continued to be challenged, even now, by many organizations with a lot of ideas and cryptocurrency developments. However, the perspective of being connected in real life is still facing a lot of difficulties.

By providing various services reflecting such challenges, we are aiming for connection between not only organizations, but organizations with individuals, and also between individuals. In doing so, we have identified development challenges as below, where our capabilities need to be focused on.

1. Provide a platform where one's own brand value can be created, regardless of an individuals or enterprises.
2. Provide a wider range of places of use for the points which is easily discarded by users. Provide information and platform to suppliers, which can be helpful for potential customer and continuous purchase inducement strategies.
3. Add expandability to the platform of physical location-based to provide customized information to users, and strategic targeting to suppliers.
4. Provide a messenger with excellent security that can be reliable, and provide an app of multilateral places of use through interconnection.

BF3 will grow and be provided as a platform that can increase one's own brand value, as a service for all, from small business owners to individuals and enterprises, with its core value of 'issuable by anyone'. The marketing approach of strategies to achieve corporate objectives that are not easy, especially harder for small business owners, such as potential customer pool expansion, customer retention, and continuous purchase inducement, can be increased by being shared and connected with service user information of prior consent through BF3.

Point exchange between brands through the DEX system becomes a means that provide a wider range of places of use for users, which provides expandability over just a simple beneficial loyalty policy.

BLOODLAND, as a location-based platform, shares a role for real information of location and time, and of a medium that can easily receive such information, through information sharing with brands participating in BF3. This provides efficient choices to both users and suppliers.

BLOOD TALK is a user-friendly app of more convenient use through the integration of a messenger app and a wallet. Also, BLOOD TALK has high availability as a step to supplement mobility, which seems to be a limitation of BLOODLAND's current status, which supports PC-only.

2. BF3 (BLOOD For 3rd Party)

2.1. BF3

What initial blockchain was aiming for was decentralized asset transfer and proof of asset ownership. Decentralized applications like DApp and everything known as smart contract is to achieve complete decentralization without interference from the 3rd party at the end. However, because all transactions at the end of the day are completed through engagement or connection by the 3rd party, the concept of decentralization without interference from the 3rd party, which the initial blockchain was aiming for, considering the fact that anyone in relationship between human to human can play the role of the 3rd party, should be changed to the concept of decentralization without interference from the 3rd party of the 1% of central power. In other words, the 3rd party should be considered as divided into the 3rd party with concentrated power and with dispersed power. In a human relationship, the 3rd party in charge of the connection could become the center of the relationship, so decentralization should be considered while being limited to the 3rd party of concentrated power. This means that we need to focus on the fact that 99% of most human beings play the role of the 3rd party in society, and we all exist under social relationships.

BLOOD Mainnet believes that blockchain technology is most needed by the 99%, most of the 3rd parties. BF3, created through BLOOD Mainnet, is designed to be able to be used in coupon, point, mileage, and loyalty compensation policy, and DApp that operates games is also available. Most of all, if BF3 is registered, the DEX system that is interlocked with Mainnet is automatically registered as well. An exchange between different BF3 becomes available through this. For example, an exchange between BF3 of a café and of a hair salon becomes available.

All users, who created nodes of BLOOD Mainnet, can create BF3 with only few clicks through the web or SDK provided by BLOODLAND. Looking at the latest trend, the most used web creation framework globally is Wordpress, and this takes up to 30% of the entire web. BLOOD Mainnet provides plug-in, themes, and others for Wordpress as basics, so the users, who want to provide loyalty such as points, can produce more easily.

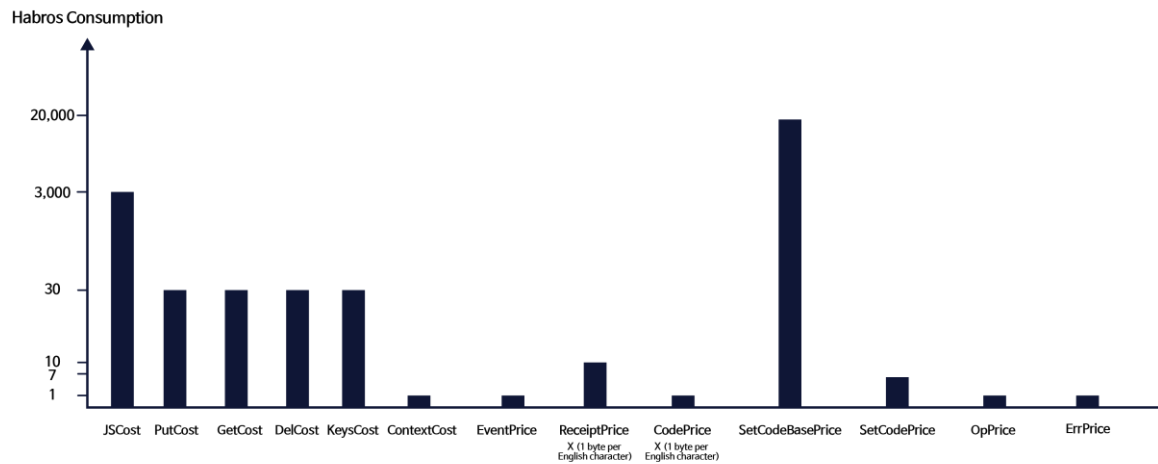
BF3 can be divided into two, smart contract BF3 and smart bill BF3. Smart contract BF3 only allows the transfer of BF3 for the users of approved registration by BF3 creator. Smart bill BF3 does not require registration, and members of the entire network can use it without an authentication process. For smart contract BF3, the creator can manage members through membership registration and termination. The reason why we have clearly divided BF3 into a smart contract and smart bill in BLOOD Mainnet is to strictly regulate the use of the term, contract. Legally, the term, contract, should have the subject and the object defined. Cases of being processed without defining such terms are like issuing a receipt when an unspecified customer purchases products from a convenience store.

When transferring newly issued BF3 between members, if an unlimited transfer is allowed without any charges, it could be abused by DDoS attack. Hence, a reasonable amount of charge is necessary, and such a charge is called HABROS. HABROS is issued as 100,000 HABROS/1 BLOOD, 1day when a minimum of 1 BLOOD is deposited for the initial 1 year. After that, starting from the 2nd year, a half period occurs, so a minimum of 0.5 BLOOD needs to be deposited and 0.25 BLOOD for the 3rd year. There are total of 8 halving periods. For the 8th year, a deposit of minimum 0.0078125 BLOOD is required, and HABROS occurring in a day becomes 781.25 HABROS. 8 halving periods were considered to prevent charges being occurred for BF3 transfer in case there are no changes on the minimum BLOOD amount for deposit when BLOOD value is increased in the market. HABROS cannot be handed over or transferred, and there is no value in the market.

A condition to issue BF3 is 1,000 BF3/1 BLOOD. That is a measured rate system, which means that in order to issue 1,000 BF3, it will need 1 BLOOD. For example, if a game company wants to create 100 million game points, the required BLOOD is 100 thousand BLOOD, and the game point is given the value of a minimum 0.001 BLOOD when created. BLOOD consumed to issue BF3 is deposited under a specific account, and the relevant BLOOD can be used for the purpose of development cost, marketing, sponsorship, and donation in the future. All transaction records will be published, so anyone can view all transaction records that occurred under the relevant account.

Another characteristic of BF3 is that the actual turnover ratio of used BF3 can be understood. When issued BF3 is returned to the user, who issued it, the value of Completion is increased, and the turnover ratio is saved under Completion value. Completion is an index that shows how active the relevant BF3 is used between the users. If 1,000 BF3 shows 1,000 Completion value, it means that it rotated once, and this is called a 1 Cycle. In order to prevent the issued user from sending BF3 only to certain users to manipulate relevant information, the value of Complexity was put into the figure. Complexity value gets increased more if the total transaction process of the relevant BF3 becomes more complex. Figures used to calculate the ranking of all BF3 registered on BLOOD Mainnet are Completion, BF3 issue amount, Cycle, Complexity, and the number of users. If the digitized value is more expensive, it is recorded on the higher rank of DEX. Also, the figures may differ depending on the categories of each BF3. The category index is referred to as the saved value in BLOOD Mainnet.

$$\text{Ranking Point} = (\text{Completion}/\text{BF3 Issue Amount} = \text{Cycle}) * ((\text{Complexity} * (1 + \text{years}) * \text{Category index}) + \text{Number of Users})$$



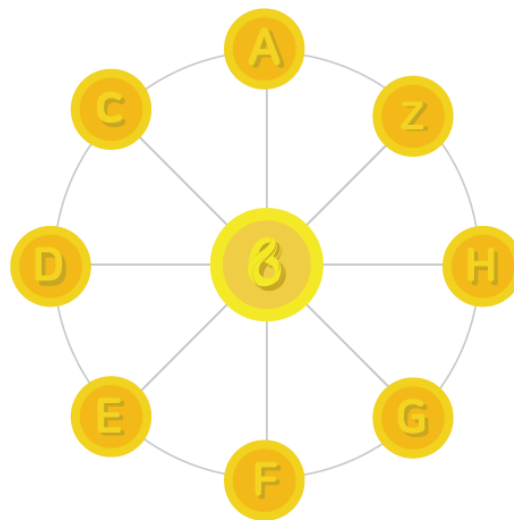
<Figure 1> HABROS Consumption Bar Graph

JSCost	NET: 0, CPU: 3000 (= 3000 HABROS)	Basic Charge for JavaScript based Contract Calling
PutCost	NET: 0, CPU: 30 (= 30 HABROS)	Charge for Entering Key Value in Map
GetCost	NET: 0, CPU: 30 (= 30 HABROS)	Charge for Inquiring Value Included in Map
DelCost	NET: 0, CPU: 30 (= 30 HABROS)	Charge for Deleting Map Key Value from Map
KeysCost	NET: 0, CPU: 30 (= 30 HABROS)	Charge for Inquiring Key Value included in Map (*Note: Key of Map can only be inquired up to maximum 255)
ContextCost	NET: 0, CPU: 1 (= 1 HABROS)	Charge for Context Created for Contract Calling
EventPrice	NET: 0, CPU: 1 (= 1 HABROS)	Charge for Event Occurrence
ReceiptPrice	NET: 1, CPU: 0 (= 10 HABROS * Data Length)	Charge per Letter of Return Data = 10 HABROS
CodePrice	NET: 0, CPU: 1 (= 1 HABROS * Code Length)	Charge for Encoded Code Length
SetCodeBasePrice	NET: 0, CPU: 20000 (= 20000 HABROS)	Charge for Contract Code Registration
SetCodePrice	NET: 0, CPU: 7 (= 7 HABROS * Code Length)	Charge for Code Length when Registering Contract Code
OpPrice	NET: 0, CPU: 1 (= 1 HABROS)	Charge per Layer Number for Command Execution
ErrPrice	NET: 0, CPU: 1 (= 1 HABROS)	Charge per Accumulated Errors for Error Occurrence

<Table 1> HABROS Consumption Table

2.2. BF3 Exchange – DEX System

The unique and differentiated characteristic of BLOOD Mainnet, different from other Mainnet, is that BLOODLAND based compensation system and all BF3 issued by users on Mainnet are automatically registered on DEX system. DEX system, with a list of BF3 saved under the brain of Mainnet (shared memory RAM), is automatically subdivided, and the results are listed based on the formula of ranking points. Transaction in DEX system is basically transaction between BF3, and the value of each BF3 is converted to BLOOD and transacted. DEX system is part of P2P engagement service, which allows mutual transactions according to value of BF3 for BLOOD transactions. All transactions are arbitrated from DEX system, and the transaction records are saved under Mainnet. In order to prevent fraud, it is designed to allow exchange between actual different kinds of BF3 from the middle server. All transactions are manageable from BLOOD TALK, a wallet service integrated with the messenger platform.



<Figure 2> BF3 Exchange

2.3. Issuing My Own BF3

Utilizing DApp of BLOOD Mainnet allows issuing one's own BF3, and this function is incorporated as basic to allow anyone to issue various brand BF3 with only few clicks.

When issuing one's own BF3, the issuer only decides on the total amount of issuing BF3, and the participants of the brand transfers BLOOD to the issuer to receive the corresponding BF3. This is the most basic structure and more complicated form of brand BF3 application is available through modification.

2.4. Btamin – BF3 Generalizing Game BF3

Btamin can be mined by installing Btamin mining item on the BLOODLAND. Mined Btamin is designed to be able to be exchanged by businesses retaining game related BF3 on DEX system. Because if points obtained through games can be exchanged with BLOOD, it could lead to the result of promoting gambling. So, it is designed only to be exchanged with Btamin on DEX system. BLOOD acquires its value by being listed on an exchange, but Btamin cannot acquire its value as it is not listed on an exchange.

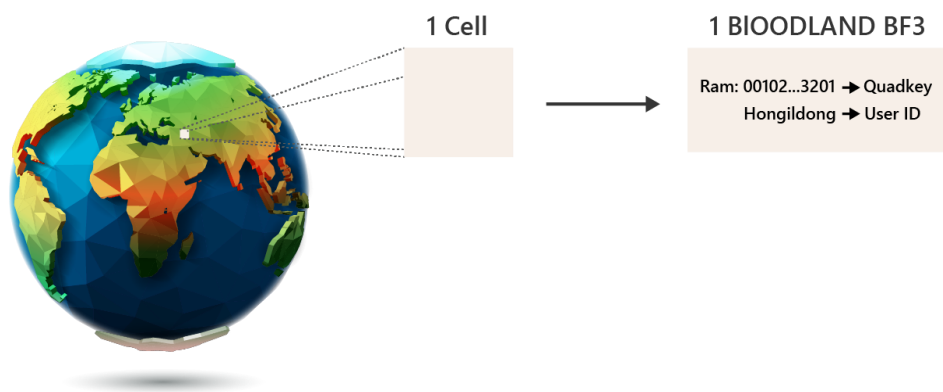
Through examples of games to be included in BLOOD Mainnet, more various and abundant games can be developed. With the versatility of BLOOD Mainnet (using JavaScript), developers can develop games easily.

3. BLOODLAND

3.1. BLOODLAND

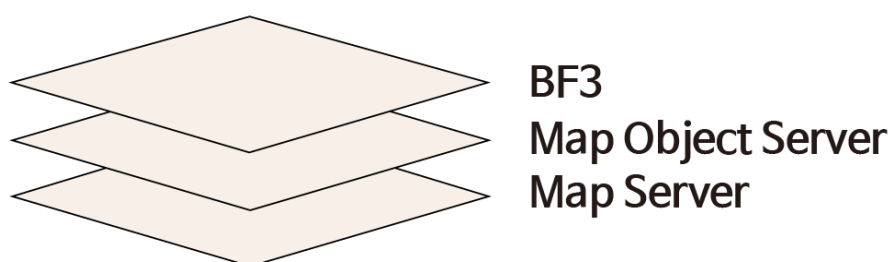
BLOODLAND, a virtual space, is the same as the Earth, which exists in real life. Geographic features existing on it is the same as the data on the Earth in reality and can be redefined by the users. BLOODLAND is composed of newly added information on the existing space of the Earth, and outputs of program or metadata, such as website, shopping mall, and videos, can be executed as well. For example, BLOOD users can experience a virtual space with reality, such as actions done on the Earth like playing game at some point on a certain area on BLOODLAND that he/she wants to experience or participating in the website at some point. BLOODLAND is made with BF3 of BLOOD Mainnet as a basis. Quadkey item of 1 cell of BLOODLAND is the same as 1 BLOODLAND BF3, and BLOODLAND BF3 individually saves distinct Quadkey of each BF3 using the space called brain (RAM).

BLOODLAND



<Figure 3> Quadkey of Each Cell

BLOODLAND is designed to save and execute the output of compiled programs and share the vision (the actual screen shown) Quadkey vision sharing technology. BLOODLAND is one giant network computer that is experienced by all client computers of users at the same time, as well as a cloud storage space of a new concept. On geographical features on BLOODLAND, not only program or script execution is available, but also various systems, such as Windows, Mac, Android, and Linux, can be participated as clients while retaining independence. Unlimited use is available on the BLOODLAND platform. If web standard technology is applied, BLOODLAND execution becomes available without being subordinated to the platform.



<Figure 4> BLOODLAND Layering Structure

BLOODLAND obtains distinct Quadkey by cell. Since the past of maps started to be produced, Universal Transverse Mercator has been developed as a means to put the Earth on a map. A technology of location information of the Earth based on GPS has been developed from Universal Transverse Mercator. This is an ideal means, which is an output of existing Mercator with longitudinal axis Mercator coordinate system, which solves extreme distortion of the South Pole and the North Pole, and horizontal axis Mercator coordinate system with extreme distortion of the equator, supplementing each other to show all regions of the Earth with minimum distortion. Current digital map is made with triangulation method of satellite on top of this. BLOODLAND is produced with Mercator coordinate system and the Earth is designed with Quadkey base.

3.2. Advertisement on BLOODLAND

An advertiser can select the range of location for advertisement, select advertisement format (image, video, audio, or text), and decide amount of selected advertisement. Then, by depositing BLOOD corresponding the value of selected advertisement amount to advertisement server, users, who are located in relevant advertisement area, use BLOOD wallet application (BLOOD TALK), and have consented to BLOOD compensation policy, will receive advertisements. The advertisement in the message format will be sent as notification, and can be confirmed to be received real-time or when users want. Only the advertisements with confirmation completed are preceded with compensation. Compensation for advertisements are paid with BLOOD and it is divided between users who received advertisements, BLOODLAND owner of the location advertisement was received, and managing authority of BLOODLAND advertisement by moderate ratio.

3.3. Components of BLOODLAND

Components of BLOODLAND can be divided into 4. They are BLOODLAND server, which takes care of storage and execution of BLOODLAND; Quadkey item, an item that exists on BLOODLAND; native cloud where binary files are stored, which is operated on items and geographical features of BLOODLAND; and client service that will be installed on devices of the users.

BLOODLAND server consists of map server that manages map of BLOODLAND; map object server that manages detailed topographical map on map server; and Quadkey conversion server that converts and saves map object to Quadkey.

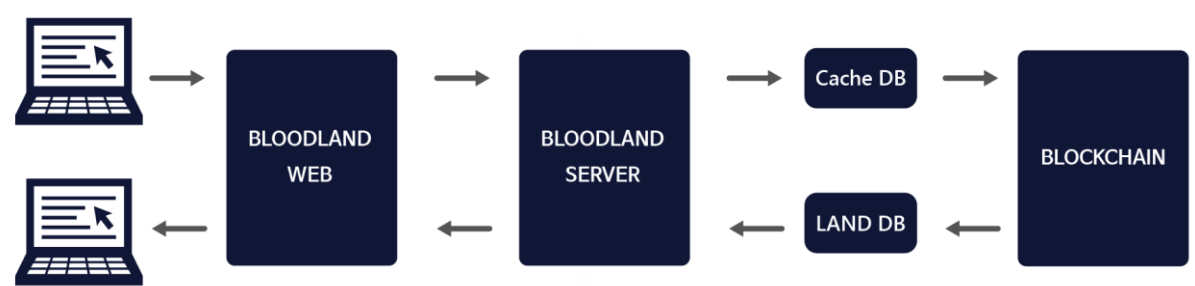
Quadkey item refers to all objects existing on the map. Quadkey Items are basically consist of Quadkey item server that creates, stores, and manages basic attribute items; mass cloud Quadkey block scanner that saves Quadkey items under blockchain based(BLOODLAND BF3) and takes care of all sorts of transactions; Quadkey property server that saves all attributes of items; Quadkey event server that takes care of item events; Quadkey service server that takes care of areas of non-visible activities of items; Quadkey content provider server that takes care of various images and metadata of items; Quadkey broadcast receiver that recognizes and responds to broadcasts like advertisement; Quadkey manifest server that allows dynamic management of all basic attributes of items; Quadkey intent that actually executes all relevant Quadkey execution columns; Docker system for managing and processing multiple servers; main server, which is like a brain, to manage all systems; and web based native plug-in and BLOOD docking that operates BLOODLAND.

The above content is similar to the management process of operating an application on an Android device. One big Android device is operated on the Earth, and each client device can share or personalize operating image or metadata to experience. This provides the basis of the most fundamental technology that consists of super network computing without boundaries.

Quadkey item is activated through Quadkey intent. If an aspect of Quadkey item being activated composes the screen, it is called Quadkey activity, and if it is not visible on the screen, it is called Quadkey service. Because Quadkey is used to determine the distinct location of item, Quadkey based item determination method can eliminate confusion and ambiguity of relative coordinate value using X, Y coordinate system. If at a certain region, Quadkey is brought down for each item to be prepared to receive a certain event of a central network, items that created nodes on broadcast create Quadkey intent.

For example, let's look at a scene from Ready Player One (directed by Steven Spielberg, 2018). The main character enters to the dance floor. There is a crowd, and dance music is being played. Here, the crowd is Quadkey activity. The clothes the crowd is wearing can be in many different colors and shapes through Quadkey content providers. Because the dance music is not visible, it is Quadkey service being operated, and answering the phone in the middle is Quadkey broadcast being operated on the main character. On this, certain reactions of the main character can be objectified with Quadkey intent.

Among Quadkey items, existing programs consisted of binary execution files can be converted to binary format, which is executable on the web through native cloud compile, and be executed on the web browser with web based native plug-in after being saved under the server. Plug-in executable on a web browser is also called client service, and the client service can be operated on Chrome based web browser. Chrome browser published native Chrome to the public and provided WEB-GL, which allows the implementation of web based 3D Quadkey items.

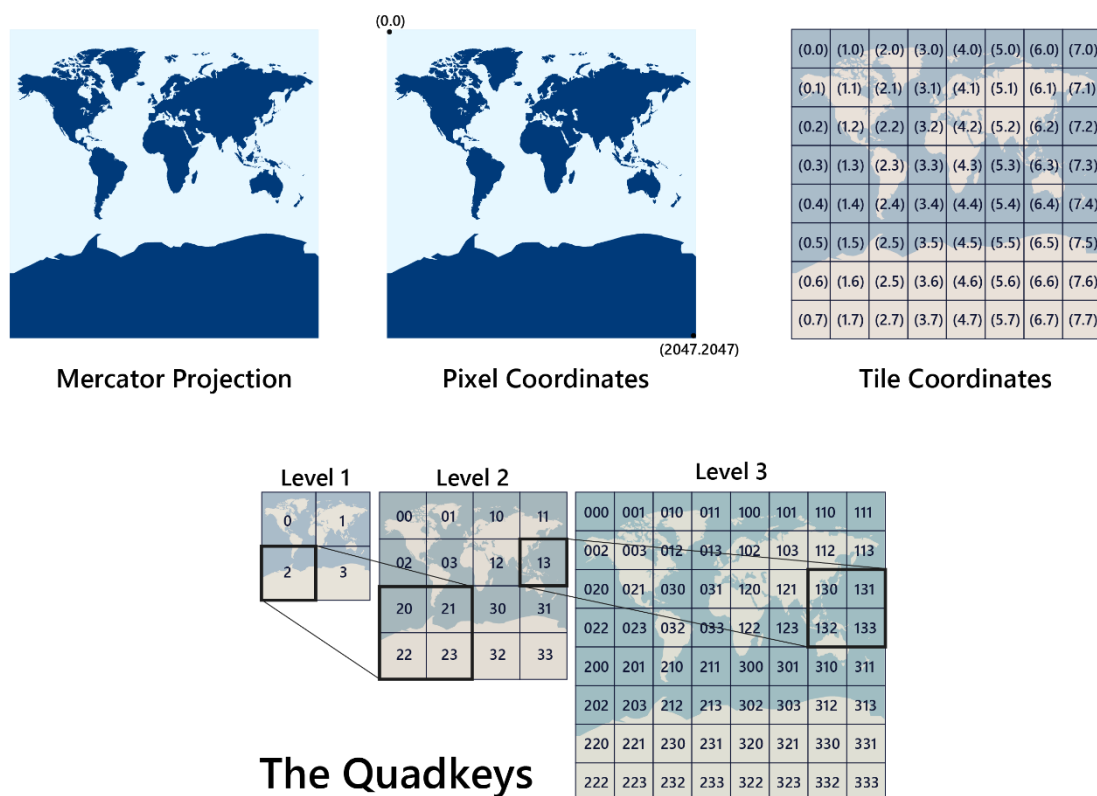


<Figure 5> BLOODLAND Execution Structure

3.4. Detailed Explanation on Quadkey

Projecting the entire Earth on a map is called Mercator projection. There is a means to define a location on the relevant map, which is a point based, location-based Pixel Coordinates, and this is often used by latitude longitude system using satellite. For point based Pixel Coordinates X, Y, there is an issue of the absolute value being changed depending on the level value, which can lead the relevant location value to be changed depending on the level (Resolution or expansion stages of digital map, which can be described as 0 to 23 levels) value.

By going in deeper with Quadkey based, with a value of (Quadkey, Z), location of any small object can be described on Quadkey based. Above 23 levels, the actual location of the item is shown, is recognized as located in Quadkey center, and Z value can be calculated through the metric system with a location distance value of the lowest point of the item from the surface of the Earth. Using the relevant Quadkey and Z key based, accurate location of the item anywhere on the virtual space on the Earth can be described.



<Figure 6> Quadkey Structure

3.5. Proof of Asset Algorithm of BLOODLAND

Algorithm of blockchain searching for new blocks is basically based on Byzantine Consensus Algorithm (Byzantine Fault Tolerance, BFT). In order to resolve this, initial Bitcoin used proof of work. Later, in order to improve the problems of proof of work method (electricity usage, mining equipment issues, 51% attack, and etc.), proof of asset is started to be used. Proof of asset basically provides a higher chance of finding a new block based on the probability distribution of the asset. Interestingly, for asset distribution of BLOODLAND, proof of authority, which does not trigger Byzantine Fault, was chosen.

First, the authority of the account finding all new blocks is designated. The designated account is saved under blockchain storage, brain (network RAM), and is opened to all participants. Authority to find new blocks designates rounds. Thousands or millions of blocks exist for each round, and each block has a creation cycle of around 1 second to resolve the transfer speed limit of BF3. The creation cycle of the block can be faster at some point in the future when system performance is enhanced. For example, if current blocks belong to 100 rounds, the account for finding a new block of 101st round is already decided and published to all participants through the internet.

Newly issued BLOOD is distributed through the distribution system of BLOODLAND. The distribution system of BLOODLAND redistributes to the participants based on the asset ratio of BLOODLAND BF3 (BL). The asset of BL is entered within blockchain where BL is included and saved under the memory of blockchain (brain). The distribution system of BLOODLAND refers to the brain and distributes according to the ratio. All of these processes are designed to be opened to the public. In order to achieve this, all BLOOD achieved by users who find new blocks is immediately redeemed through BLOOD distribution system, and BLOOD distribution system executes distribution once a week to reduce network overload and achieve fair distribution.

3.6. BLOODLAND BF3 (Token)

Quadkey item displayed on BLOODLAND is the same as 1 BLOODLAND BF3 (subordinate BF3 creatable with BLOOD Mainnet. The unit used is BL) by basic 23 level standards. In the future, with 24 level standards, it can be owned as 0.25 BL. BLOODLAND BF3 is created from Mainnet, and information of Quadkey cell and owner are written in brain, which is RAM memory space of Mainnet. If the cell information is changed, then the information of the owner of the relevant Quadkey cell also is changed. Quadkey item based on BLOODLAND, which is based on Mainnet's compensation system, is also BF3 that is issued on the basis of the rules of the Mainnet.

BLOODLAND BF3 is a smart contract type of BF3. The initial issue amount is 0, and the maximum issue amount is 7 trillion. The issue condition for 1 BLOODLAND BF3 is 10,000 BLOOD. If the issue condition of 10,000 BLOOD is fulfilled, information of Quadkey and the owner is written on relevant BLOODLAND BF3. The operating server of BLOODLAND is a separate server system that is based on blockchain, is consisted of a mass processing system for the map and faster execution, and transaction between users on the relevant server is available.

4. BLOOD TALK

4.1. BLOOD TALK

BLOOD TALK is a messenger platform between members, and all types of BF3 can be. BF3 can be conveniently used at any time anywhere through this. Also, BLOOD TALK provides an interface that can create and manage new BF3 and is designed in a way for no one except himself/herself to view conversation content using an automatic encryption security system. An encryption method of a character string is provided as well to prevent screen capture or external shooting. Besides security enhanced messenger function, BLOOD TALK can confirm exchange and transfer between members and has information management function on all information of BF3. Mainnet nodes are loaded on BLOOD TALK to provide a base for many nodes to verify to increase the reliability of the network.

The image displays two panels of the BLOOD TALK interface. The left panel is a confirmation screen with a light orange background. It features a white speech bubble containing a blue circular icon with a white 'B' and the number '32,000' below it. A blue checkmark is visible in a white box. At the bottom, a white speech bubble says 'Thanks'. The right panel is a form for creating and issuing a token, also with a light orange background. It contains several input fields: 'Publisher', 'Token Symbol', 'Token Total Supply', 'Token Issuance', and 'Ddcimal'. Below these are two radio button options for 'Token Transfer' and 'Issuer Token Transfer', each with 'Available' and 'Unavailable' choices. At the bottom, there is a 'Full Name of the Token' field and a blue button labeled 'Create and Issue Token'.

<Figure 7> BLOOD TALK Example

5. BLOOD and Mainnet

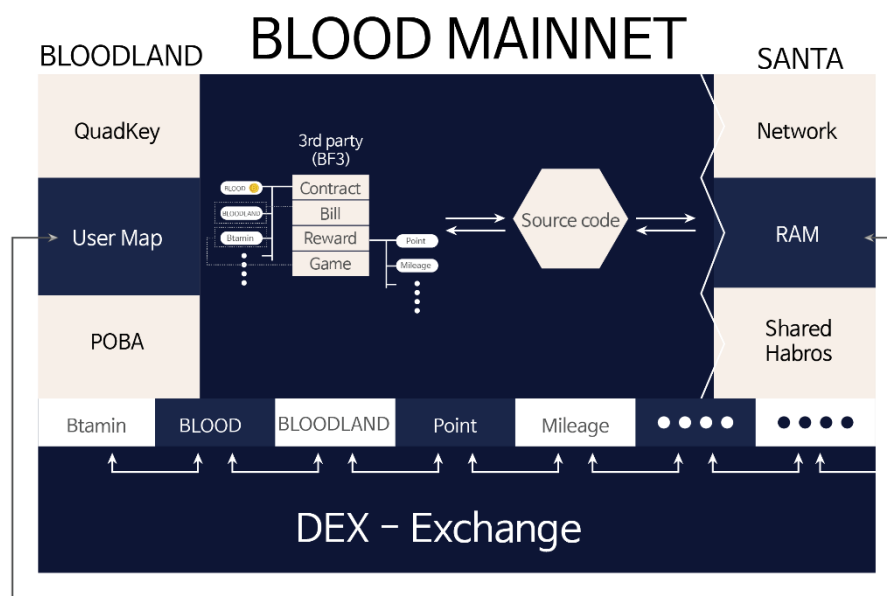
The basic transaction unit that retains the outlook of BLOODLAND is BLOOD. In the initial stage, a total of 20 billion BLOOD coins are issued, and an additional 20 billion BLOOD coins are issued later. Total issue amount, including the additional issue amount, becomes 40 billion BLOOD, and for the additional 20 billion issue amount, 1 million is distributed a day according to ownership ratio of BLOODLAND owner.

※ **BLOODLAND owner within BLOOD Ecosystem refers to BLOODLAND BF3 owner, and this specifies that the object of ownership is different from BLOOD BF3 owner. In other words, BLOODLAND owner and BLOOD owner are not the same. BLOOD issued through PoBA is distributed to BLOODLAND owner.**

BLOOD, a basis of BLOOD Mainnet, is created with BLOOD Mainnet as a base. All subordinate tokens created through Mainnet are called BF3 in BLOODLAND. BLOOD is one of BF3, and affiliate tokens, such as BLOODLAND BF3 and Btamin BF3, are also included.

All members participating in BLOOD Mainnet can compose their own BF3 and all BF3 existing in BLOODLAND Mainnet can freely be transacted through DEX system of BLOODLAND. DEX system uses BLOOD as a basic medium.

BF3 of BLOOD Mainnet does not use BLOOD for transfer charge but uses HABROS, which is occurred when more than 1 BLOOD is locked on one's account. HABROS amount generated is proportion to locked BLOOD amount and is disappeared if unlocked. HABROS cannot be transacted but is basically used as a transaction fee for BF3 transfer or for important calculation of created BF3. Strictly speaking, there is no value in HABROS, and based on the assumption of no value, there are no charges in BLOOD Mainnet.



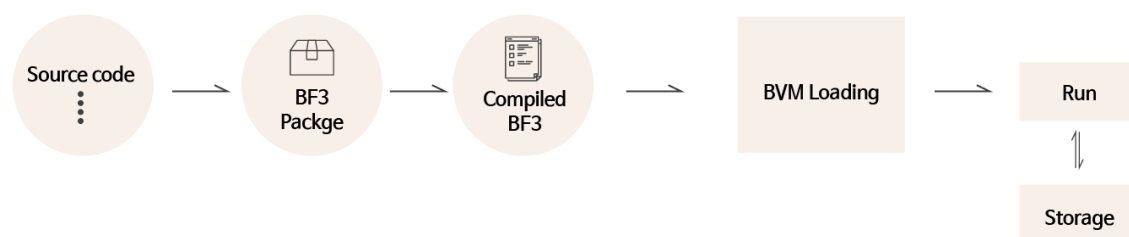
<Figure 8> BLOOD Mainnet Architecture

5.1. Shared Storage of BLOOD Mainnet – Brain (RAM)

BLOOD Mainnet is a space where any type of information can be stored, such as account based information when operating BF3, all sorts of database, Quadkey item information of BLOODLAND, and BF3 ranking information used in DEX system. The space starts with 256GB and is designed to be automatically increased by 128GB every year. Brain (RAM) can be purchased with BLOOD, and one's own space can be owned, rented, or purchased on behalf. 50% of all spaces are allocated to BLOODLAND and is designed to be automatically increased by 64GB. This means that there is a limitation on cell numbers that you can own BLOODLAND for 1 year. Newly assignable BLOODLAND BF3 for the first year is only available when there is space left in the brain.

5.2. BLOOD Virtual Machine

BF3 registered on BLOOD Mainnet is given JavaScript based source code. JavaScript based source code is designed to be visible to all participants participating in the relevant BF3. Source code is packaged in the BLOOD virtual machine and is reduced in size. Packaged source code is compiled for execution, and BVM included in user nodes is preloaded to run the relevant compiled execution file. So, if a request from the relevant BF3 occurs, it will be executed, and it is designed to refer to the brain (RAM) for execution. BVM creates Instance individually to have BF3 executed, and BVM Instance inquires and records data of transaction records, information of BLOCK, and RPC. Also, database can be formed using a cache of local memory where each BVM belongs.



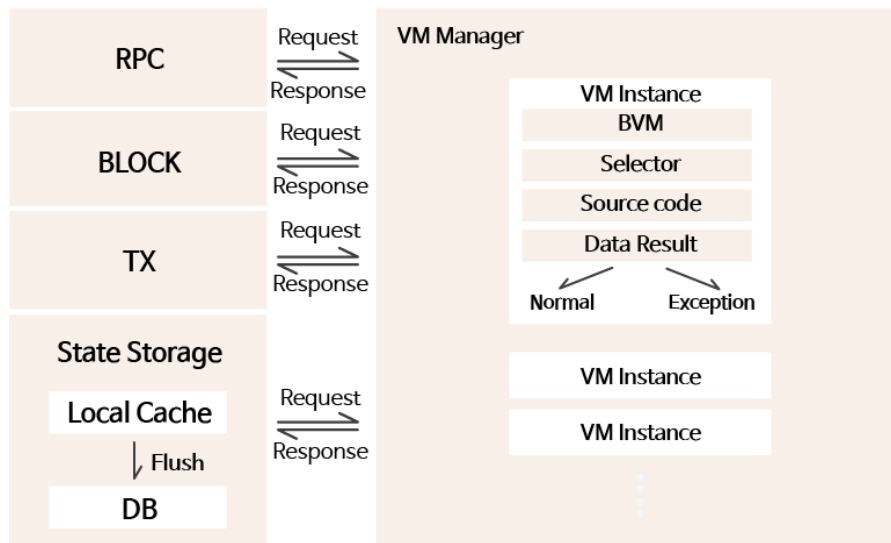
<Figure 9> BVM Execution Structure

The reason why virtual machine in blockchain applied JavaScript based source code is to compose Mainnet that is closer to Turing completeness. JavaScript is a language designed to be individually operated in virtual machines of each node. Virtual machine operated by individual nodes would be the optimum choice to be closest to Turing completeness. This is called loosely Turing completeness.

Turing completeness means certain programming language or virtual machines having the same calculation ability as a Turing machine. This means that a problem that can be solved with a Turing machine, which is a calculative problem, can be solved with a programming language or virtual machine.

In principle, it is impossible to make virtual machine with no limitation in size, Turing completeness machine of true meaning may be physically impossible. However, loosely Turing completeness is considered for physical machine or programming language that is assumed to expand the size of memory device without limitation. Considering that the size of storage for blockchain, which is a virtual memory space without limitation, will rapidly be increased in the future, virtual machine using JavaScript is the optimum choice for Turing completeness.

BLOOD VM Architecture



<Figure 10> BVM Architecture

6. Token Matrix

6.1. Token Matrix

Initial Issue: 20,000,000,000 BLOOD

Final Issue: 40,000,000,000 BLOOD

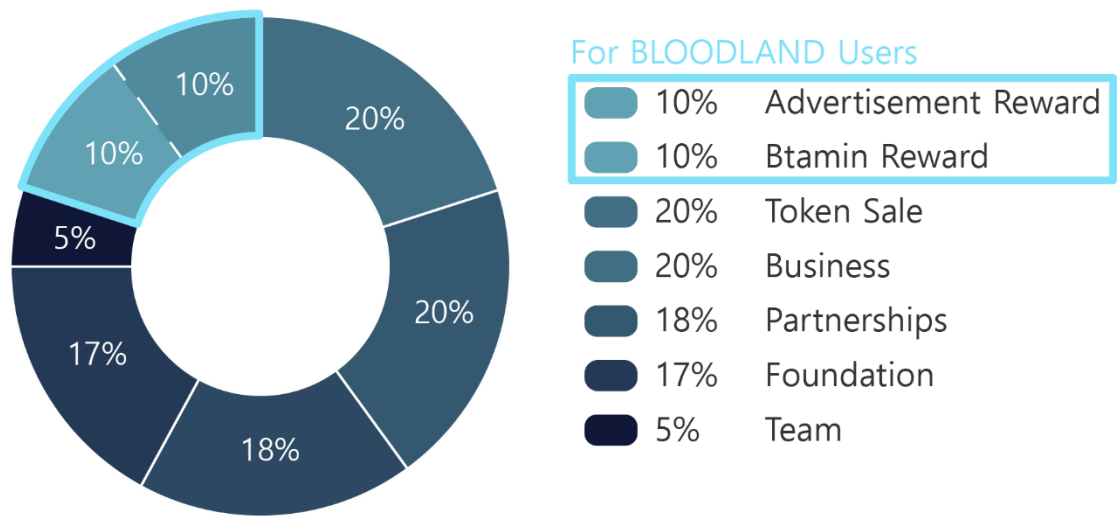
Token Sale (Private Sale): 4,000,000,000 BLOOD

Token Sale Price (Private Sale): 1 KRW

※ 20,000,000,000 BLOOD is additionally issued through PoBA; hence the final issue will be 40,000,000,000 BLOOD.

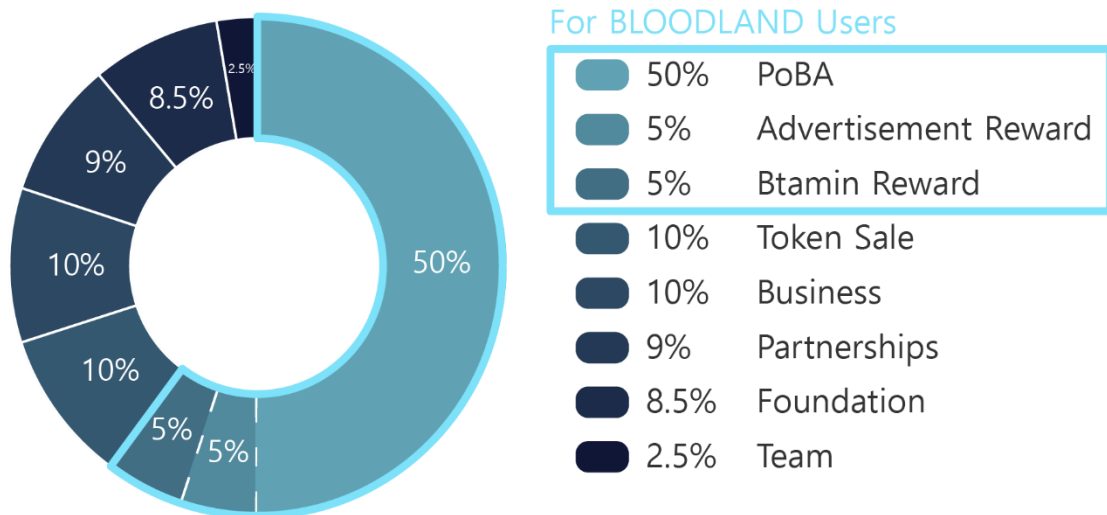
※ After the launch of BLOOD Ecosystem official version, 1,000,000 BLOOD is distributed every day through.

First Token Allocation



<Figure 11> BLOOD Initial Issue Distribution Chart

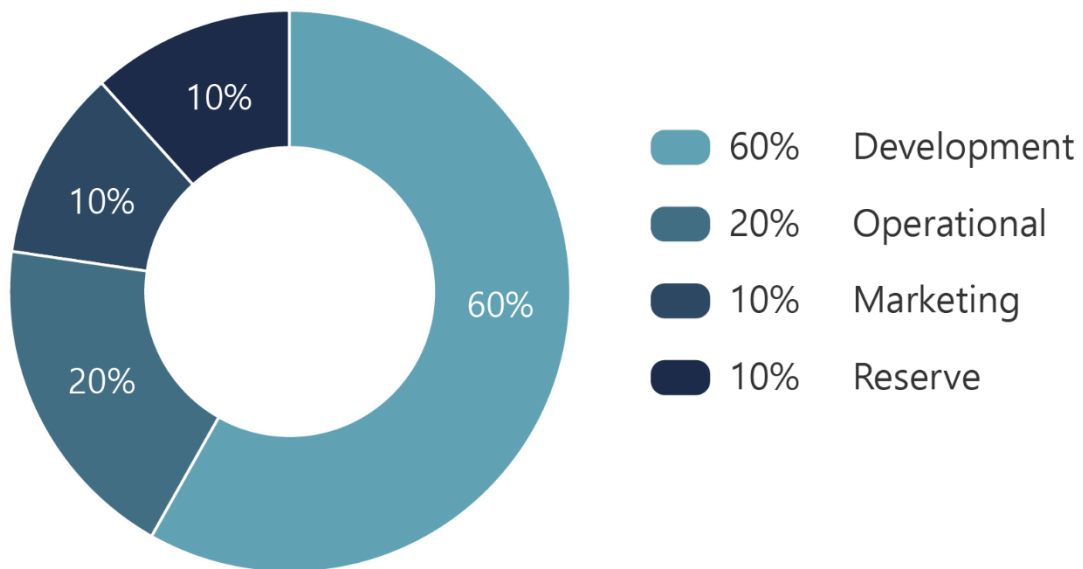
Final Token Allocation



<Figure 12> BLOOD Final Issue Distribution Chart

6.3. Funds Allocation

Funds Allocation



<Figure 13> Use of Funds

7. Roadmap

7.1. Roadmap

ROADMAP



1. Q4, 2019: Announcement on BLOOD Ecosystem official version

BLOOD team prepares for official version launch

BLOOD listed on an exchange



2. Q1, 2020: Testing before BLOOD Ecosystem official version launch

BLOOD Testnet launch during the testing period

Launch BLOODLAND, a basis of BLOOD Ecosystem



3. Q2, 2020: BLOOD Ecosystem official version launch

BLOOD Mainnet launch along with official version launch

BLOOD TALK test version launch

Btamin content launch to utilize Btamin



4. Q3, 2020: BF3 system test version launch

Expand Btamin content more diversely



5. Q4, 2020: Update advertisement layer in BLOODLAND and test launch

8. Team, Advisors, Development and Marketing Partners

8.1. Team



Seung Il Chung | Director of Development | Co-Founder

Korea's representative developer from "National Software Maestro"

Seung Il Chung, the leader of BLOOD team and the Director of Development of BLOOD Ecosystem, is doing his best for user-friendly blockchain ecosystem with Openness spirit in mind.

He was awarded with the grand prize from KT Venture Award in 2009, and has been participating in various development projects and mentoring activities. By providing a mission to blockchain ecosystem through such experiences, he continued with planning and development, and published BLOOD and BLOODLAND to the world.

- BLOOD Ecosystem Planning / Development Management
- Graduated from Seoul National University
- Developed electronic tax invoice as the first in Korea (2000)
- Won the grand prize at KT Venture Award (2009)
- Won the excellence award at SKT Contest (2009)
- Worked as a full-time mentor at National Software Maestro (2009 – 2012)



Sang Hoon Lee | Co-Founder

Graduated from School of Medicine, Tianjin University, he is contributing his expertise of economy and medicine, which he has been continuously studied based on his learning on blockchain and passion on development, on BLOOD movement and BLOOD Ecosystem establishment.



Jin Hoon An | Vice President

Jin Hoon An continues exploring about commercialization of blockchain in real life, while designing BLOOD Ecosystem. He graduated from Seoul National University and is planning blockchain commercialization by steps through BLOOD Ecosystem.



Kwon Seok Kim | Chief Technology Officer

Kwon Seok Kim, the Director of Planning at Korea Patent Attorneys Association, is the Chief Technology Officer at BLOOD team. He graduated from Seoul National University and Graduate School of the same university. He continues to gradually widening his understanding of blockchain technology and strengthening blockchain technology of BLOOD.



Hwan Oh Bae | Chief Contents Officer

Hwan Oh Bae, the representative of BLOOD Studio, is creating content that will help the technology of BLOOD stand out even more, based on his PR video production experience with Samsung Electronics, POSCO, LG, Hyundai Heavy Industries, and SK Telecom. He is also in charge of the overall service.

8.2. Advisors



Sung Soo Kim | Advisor

Appointed as the advisor at National Assembly the 4th Industrial Revolution Forum Small and Medium Sized Businesses Venture Continuous Growth Committee, he is the BLOOD advisor as the CPA from accounting firm association, which provides various professional services fit for industrial characteristics of clients.

8.3. Development and Marketing Partners



HANKOOKILBO

HANKOOKILBO, as the leading press of Korea, has decided to cooperate with BLOOD team on future blockchain related business and operational management. They will continue with their best in diverse areas, such as providing compensations for good blogs and good articles, by participating in achieving the goal of human oriented coin ideology of BLOOD.



TYGEM

Tongyang TYGEM is an online Baduk (Go) game site with domestic members of 1 million and overseas members of 3.2 million. Cooperation between both companies is expected for diverse content creation of BLOOD Ecosystem.



BLOCKNODE COMMUNICATIONS

BLOCKNODE COMMUNICATIONS provides integrated consulting agency services encompassing development, investment, and marketing, to international and domestic blockchain projects. It especially holds expert partners of finance, legislation, and technology, and implemented synthesized accelerating process. Partnership has been signed for activation of location-based service of BLOOD Ecosystem.



DFIN

DFIN is a specialized company that provides De-Fi service, which will bring innovation to finance through blockchain and digital asset, as well as investment, accelerating, and community building to international and domestic blockchain projects. DFIN and BLOOD signed partnership for the creation of BLOOD Ecosystem and expansion of actual usage through FinTech network of DFIN.

HAECHI LABS

HAECHI LABS

HAECHI LABS is an international and domestic blockchain technology specialized company. It provides solutions for companies to connect existing services with blockchain, based on its technical knowhow, and is implementing cooperation relationship not only with domestic enterprises, but also with global exchanges. BLOOD completed smart contract security inspection service of HAECHI LABS to prevent issues such as security and hacking.

9. Exemption Clause

Please carefully read all content of hereof exemption clause. If you are uncertain of your future actions, please consult with legal, financial, tax, and other professionals.

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