MetaMCC

Building Trust with Your Data

WHITEPAPER

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Abstract

Data is at the heart of the economy: It is reshaping the world. In today's data-driven society, personal data is an important asset. Companies design their products, implement their marketing strategy, and target their customers based on the personal data of customers. Credit data, with which a credit bureau evaluates individuals through its evaluation criteria, is the base for economic interaction among people. Financial institutions manage the risk of their loan and price the risk premium for insurances. With the application of big data, personal and credit data is becoming the driving energy of an economy in the era of Fourth Industrial Revolution.

Personal data is owned and used by major corporations, and these corporations are making vast amount of money. Credit data is stored in the servers of a few credit bureaus and financial institutions. Individuals, who generate the bulk of the data, are its rightful owners, however, are not receiving a fair compensation. Most of the time, individuals do not have a choice but to accept that they hand over their personal data in exchange for the service delivered.

Although corporations/traditional credit bureaus have been the greatest beneficiaries from these market circumstances, their increasing needs for most up-to-date data and accurate consumer data are not satisfied. There is no platform in which a company can get access to a massive web of personal information without the risk of legal liability and reputation, thus meeting customers' changing demands and securing its market share,.

The market for personal and credit data is growing rapidly. Yet, there is a limit to how the data is collected, processed and disseminated, and how its value is shared. The value of data from different perspectives, that of an individual and a company, and how the understanding of these perspectives can contribute toward the social progress and the economic development of a society are the prominent issues that must be taken into consideration.

MetaMCC is a platform where an individual can produce and deal 'Trust Data' in both reality and virtual world.

MetaMCC aims to produce Trust Data, targeting the issues raised in the current data market. Individuals will have the full ownership and control over their Trust Data and get compensation for their data provision. By uniting into the MetaMCC ecosystem, corporations can get access to comprehensive and quality customer data, adding value to the data, thereby creating new opportunities.

MetaMCC aims to produce Trust Data in both reality and metaverse. Personal and credit data will be shown in these two worlds, the real and the virtual. MetaMCC's Reliability Measure Data of Seed Networking is evident. MetaMCC Seed Networking is a gift-giving mechanism where an individual's profile reputation is reveled through interpersonal networking making it unique and easy to differentiate from any other data in the current market.

In the virtual world, in the metaverse, a one-and-only NFT, limited amount of only 100,000, is being distributed to the individuals allowing the ownership of land and house within the metaverse. This virtual world will eventually connect with MetaMCC Seed Networking allowing an interchangeable market of exchange within the real and metaverse network.

Trust Data will be used in various institutions, including the financial sector. It will also be used to measure and provide credit for those who do not have enough data. It will be used to evaluate their credit scores by the existing credit bureaus, providing benefits for people without proper access to finance.

In this regard, MetaMCC is a game-changer. MetaMCC will realize the right distribution market for personal information and the activation of Trust Data. It will provide various benefits and opportunities to generate new profits for both individuals and corporations. Furthermore, it will serve as an axis of global economic development by contributing to the public interest.

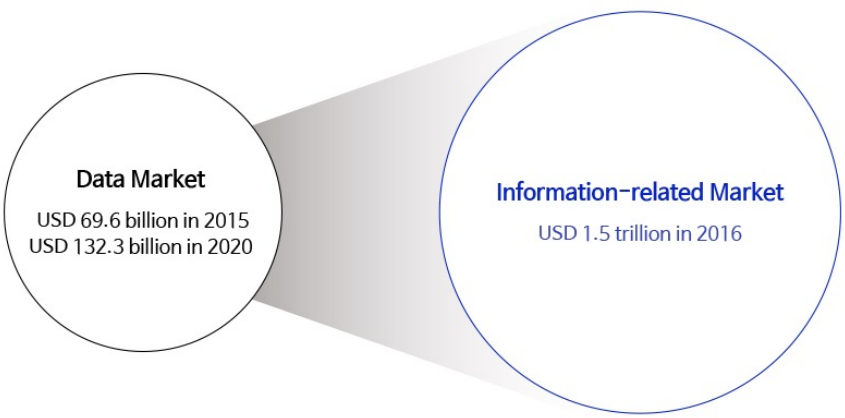
1. Business Background

The importance of data is rapidly increasing in our data-intelligent society. Data is driving the business and future competitiveness depends on the leverage of it.

In the Fourth Industrial Revolution, enabling the creation of another cooperative business based on data makes a connection in between industries, and information each industry shares. Various business models can be created with the usage of the vast amount of data shared, and through this, new value-added creation is possible.

MetaMCC aims to establish an ecosystem that presents methods for collection and transparent delivery, and efficient use of data to create a new data value. MetaMCC intends to create new business opportunities by specializing in “Personal Information” and ”Credit Information” between individuals and between individuals and companies.

1.1. Data Market



Picture 1. Global data market size
451Research 'Data Industry Market Report', Outsell 'Information Industry Outlook 2017'

1.1.1. Data Industry Market and Its Prospect

The global data industry market in 2015 is USD 69.6 billion and it is expected to reach USD 103 billion by 2027.*

The 'information service market', which provides information through online and offline channels, separately from the data market, is estimated to be worth USD 1.5 trillion in 2016. In other words, it means that information services using data as well as the original value of the data industry is currently growing.

1.1.2. Limitations

It is important to open and utilize personal information in the process of activating data distribution. Nonetheless, the business use has been limited by various regulations for the protection of personal information, and it has been exposed to the following problems.

MetaMCC aims to discover the market problems by classifying them into personal information and credit information.

Limitations of the Personal Data Market

- **Collection of Information, Concerns about Hacking**
  Businesses are exposed to the risk of leakage accidents caused by hacking the personal information internal system. Companies are investing enormous amounts of money and time to prevent leakage, but perfect defense is not easy, evident in the many hacking cases worldwide.

- **Subjects of Information, No Control of their Data**
  In the process of personal data distribution, it is difficult for individuals to recognize that their information is being distributed, only receiving a minimum number of notifications.

- **Monopoly of Companies, No Compensation to the Individuals**
  Certain companies earn huge profits from illegal or exclusive information distribution. Although individuals provide their own data, they not receiving any compensation from the data distribution process.

*Big Data Industry and Digital Commerce, Jan. 28, 2022

- **Recognition of Necessity, Companies Alienated from Data Competition**
  Companies are keenly aware of the need for data for their business, yet there are no available data distribution channels, and there are risks to illegal transactions and unreasonable price.
  Companies face enormous costs to collect data directly, and even if they do, it is difficult to maintain the quality of data. Also, they are facing challenges in distribution and use of data and are faced with a lack of personal information skills and inexperience in data transaction and methods.

Limitations of the Credit Data Market

- **Personal Credit Information for Financial Transactions, Realistic Limitations**
  Personal credit information evaluation is narrowly used in financial transactions. Even in the case of the same individuals, there are cases where the credit rating differs significantly for each CB company.
  Credit ratings can fall significantly due to overdue or non-bank credit inquiries and loans. It even takes a long time to recover the rating even after resolving the cause of the decline.

- **Developing Credit Markets, Multiple Credit Benefit Outcasts**
  Despite the development of the financial industry, ”Thin-filers,” who have no assets or low income, are unable to use institutional financial services due to low credit ratings. In addition, “The Unbanked,” which has no experience in banking transactions, accounting for 59% of the world’s population (estimated at about 4.5 billion), does not have data to evaluate credit.[1)]
  These credit underprivileged people do not receive credit benefits just because they do not have evidence data regardless of their economic capabilities.
- **Expanding Industry Diversity, No Flexibility in the Existing Credit Information**
  Traditional credit information has been evaluated based on economic power such as assets held by individuals, financial transaction details, and income for other financial transactions. These credit information is data created based on past information, and it does not reflect the current situations of the individual. There is a limit to reflecting the potential information the individual has.
  In addition, with the development of information utilization technologies such as big data, it is somewhat heavy and difficult to use for personal information-based services such as the newly created sharing economy.

2) LTP – Let’s Talk Payments, March 16, 2017

1.2. Objectives of MetaMCC

MetaMCC aims to provide 'Trust Data', a. different data from the existing financial-oriented credit information. In addition, It is provided as a blockchain and cryptocurrency-based ecosystem so that individuals, companies, and organizations can easily participate in the utilization of "Trust Data" and share profits to all participants by accurately distributing transaction records and transparently disclosing them. Furthermore, MetaMCC intends to expand the scope by reflecting the activities of the virtual reality world called metaverse.

It will provide companies with the opportunity to easily purchase reliable up-to-date data from both the real and virtual world (metaverse).

Through the MetaMCC ecosystem, companies can easily purchase the latest data from the real and virtual worlds, paying the appropriate price for the value of the information. The cost of data usage will be transparently provided to the individual participants, those who have provided their data, forming a self-sustaining structure to maintain quality data.

It will ensure safety in the distribution of personal data.

Trust Data traded in the MetaMCC ecosystem is temporarily stored in an encrypted distributed storage after real-time collection. Data will be deleted after use, freeing the individual from the risk of getting hacked.

It will provide a Trust Data that will overcome the existing limitations of current personal information.

In addition to the information collected in the traditional way, MetaMCC will secure data on various online and offline activities of individuals and provide reliable information that accurately analyzes an individual's social and economic values by adding activities within the MetaMCC ecosystem.
It will also provide convenience and flexibility that can be applied to areas that require verification of individual trust, such as the sharing economy, not just limited to financial transactions.

It will return ownership, control and profits of personal information, not only in the real world but also in the virtual world (metaverse).

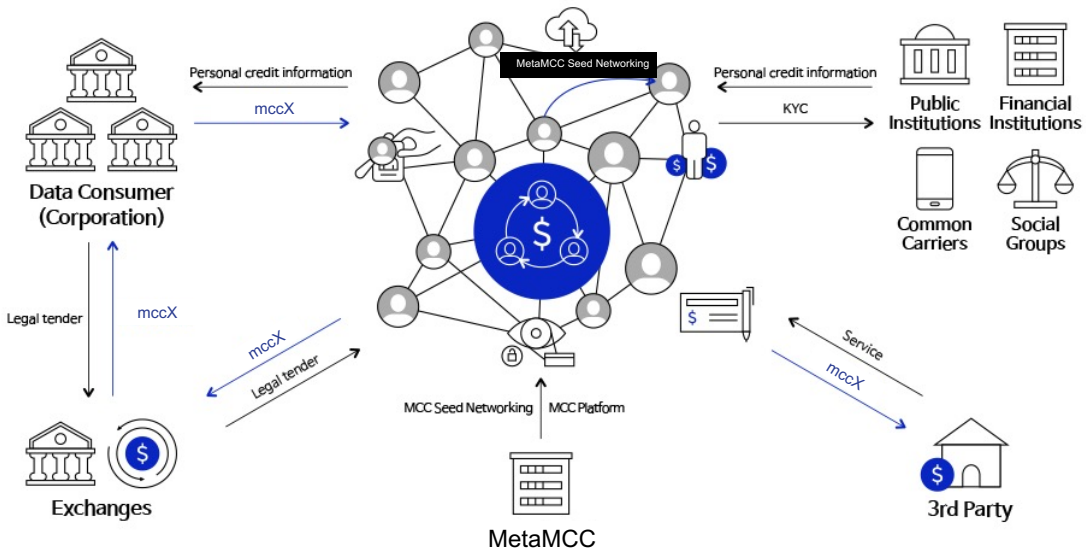
By providing a platform that allows individuals to directly approve the use of information in metaverse as well as in real life and check their use of information at any time, individuals themselves would be the owners, managers, and controllers of their data.

Individuals will be free to sell their own data and receive the price paid by the company in usage of the data.

2. MetaMCC Ecosystem

The MetaMCC ecosystem is a system in which personal Trust Data is generated and distributed into the real world and the virtual world.

By participating in the MetaMCC ecosystem, various business activities can be carried out using vast amounts of data.



Picture 2. MetaMCC Ecosystem

MetaMCC Ecosystem for Decentralization

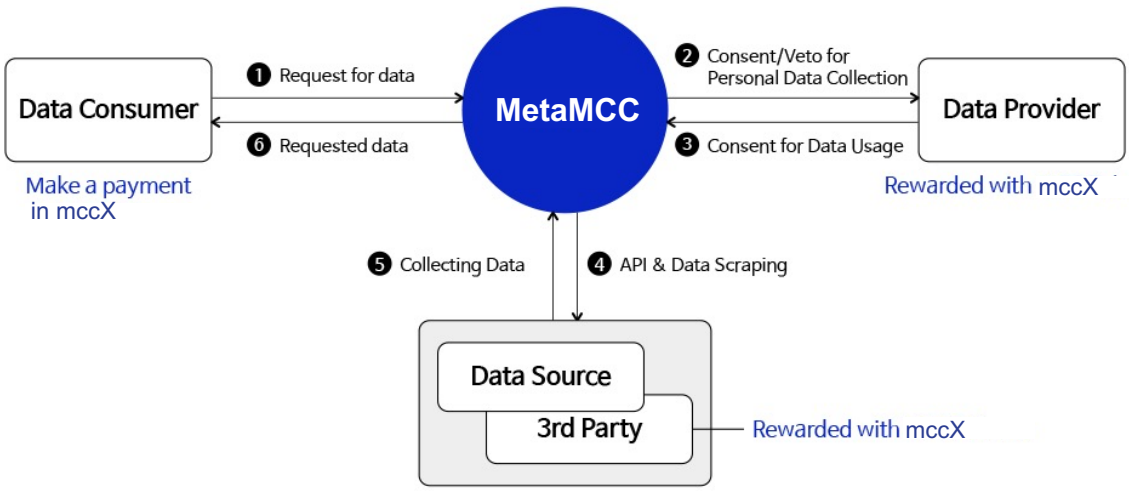
MetaMCC intends to implement a decentralized service that overcomes the existing centralized systematic limitations based on the blockchain.

1. Attribute ownership and control of information to individuals
2. Realize transparency and fairness in profit sharing
3. Provide opportunities for all participants to benefit from data center
4. Information on all activities implemented within the ecosystem

2.1. Participants

The MetaMCC ecosystem is achieved through the participation of “Data Providers”, “Data Consumers”, and “Third Parties (3rd parties)”.

Data Providers and Data Consumers are the major participants in Data distribution within the MetaMCC ecosystem and can be guaranteed profits through the sale and purchase of data. The 3rd Party will support the expansion of information collected in the system and provide various additional Trust Data through the provision of analysis technology to support a smooth service.



Picture 3. Service flow of MetaMCC Ecosystem

2.1.1. Data Provider

It refers to “individuals” who participate in the MetaMCC ecosystem.
After personal identification, one can participate in the MetaMCC ecosystem by agreeing to the use of personal data owned.

Role

- Data Providers provide the following data to the ecosystem :
  - Traditional Credit Information (annual income, asset status, credit score, etc.)
  - External Big Data Information (financial transaction details, consumption/expenditure, phone bills, social activities, etc.)
  - Social/reputation data generated through the Seed Networking.

Benefit

- The collected personal information and Trust Data can be viewed at one glance.
- It is possible to control the indiscriminate use of personal information.
- It can receive compensation in exchange for personal information distribution and participation in the Seed Networking.
- Details of personal information use and profit distribution can be inquired at any time.
- Personal information collected in extended services such as loans and financial product applications can be used.

2.1.2. Data Consumer

It refers to a ”corporation” or “partner” participating in the MetaMCC ecosystem. Corporations participate in the ecosystem by requesting personal information after going through the authentication process.

Role

- Data consumers request individuals for data targeted for business purposes in. he MetaMCC ecosystem and pay mccX as compensation for the data.

Benefit

- Direct or indirect customer information for product development, self-evaluation model advancement, and marketing is secured.
- Service operation and business can be developed by utilizing Trust Data created from personal information that meets their needs.
- Customer data can be easily collected if necessary.
- By not having to collect and manage customer data directly, the burden on management risks and operating costs can be reduced.
- By participating in the MetaMCC ecosystem, the marketing effect of opening an ”online branch” can be obtained.

2.1.3. 3rd Party

It refers to various operators participating in the MetaMCC ecosystem.
There are data scarping technologies provider, big data analysis models, and credit bureau, etc. One can participate after reviewing the technology and purpose to link to the MetaMCC ecosystem.

Role

- The 3rd Party is the participant who provides required technologies, additional analytical data or additional collected data by utilizing the data in MetaMCC platform. The 3rd Party can act as a node operator. 3rd parties must submit the detailed description on type of data usage and its purpose at the time of subscription. MetaMCC will conduct a rigorous participation certification process for 3rd parties. 3rd Party will be compensated for the for contributing such features to the platform.

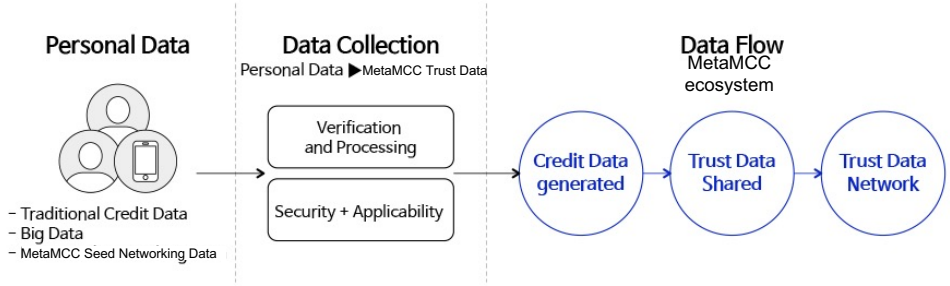
Benefit

- Various project opportunities, such as data scraping, processing and analysis, etc. can be linked.
- Creating significant added value to the data by utilizing the data in the ecosystem.
- Resale of the processed data for profits.

2.2. Trust Data Marketplace

2.2.1. Definition of Trust Data

Trust Data refers to the data generated within the MetaMCC platform. Trust Data, verified its reliability and applicability by MetaMCC, reflects a multi-dimensional depiction of an individual's trustworthiness, which can be utilized for various purposes.



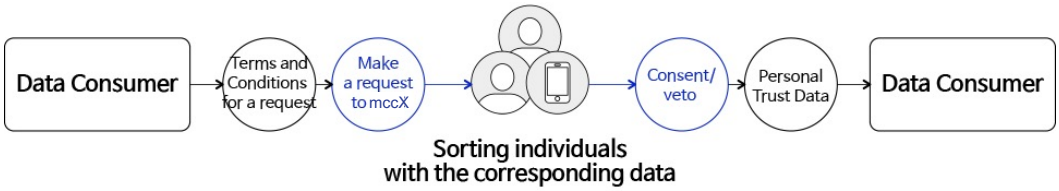
Picture 4. Trust Data collection and distribution

2.2.2. Types of Trust Data

MetaMCC Trust Data can be categorized into three types based on its function

Type	General Trust Data	Packaged Trust Data	MetaMCC Reliability Measure
Concept	Data requested by Data Consumer	Selective Data Set requested by Data Consumer	Data derived from MetaMCC Seed Networking
Purpose of Use	Product design, marketing strategy, consumer targeting, etc.	Multi-dimensional depiction of users	Evaluation of users' reliability by more advanced approach.
Payer	Data Consumer	Data Consumer	Data Consumer
User	Data Consumer	Data Consumer	Data Consumer
How Data is Delivered	Targeted Personal Data	Selected Data Set	Personal Data + MetaMCC Trust Measure
Term of Service	Once	May vary depending on requestors	Once
Estimated business type	Marketing department	Used market, home-sharing, (Sharing Economy)	Loan, recruitment

General Trust Data



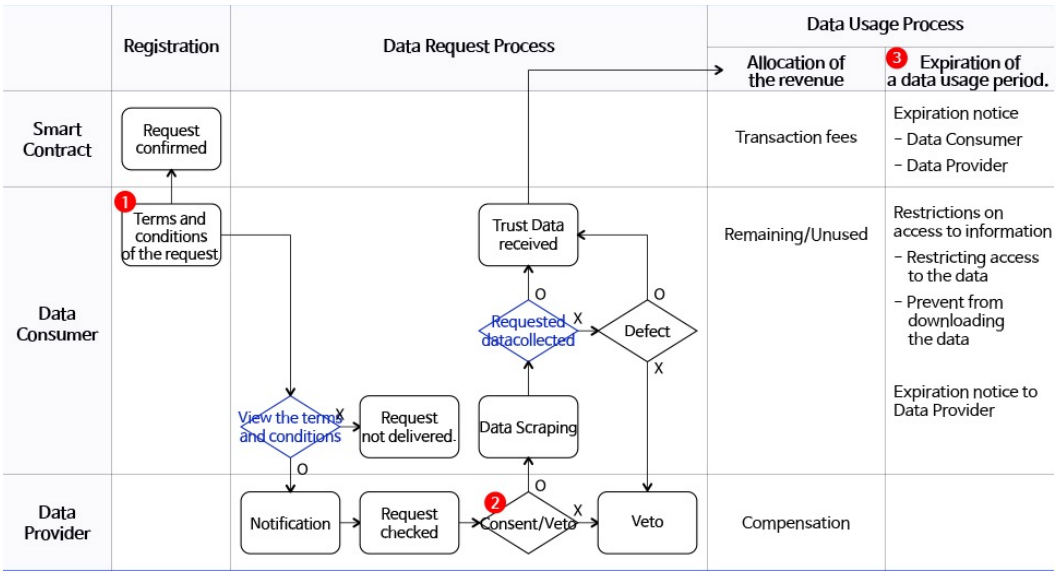
Picture 5. Personal Data distribution flow

The company can obtain personal Trust Data by collecting customer information necessary for business such as sales and marketing from participants in the MetaMCC ecosystem.

① Individual participants with the desired information are recruited on a first-come, first-served basis.

② After targeting the target group, it is possible to obtain personal trust information by presenting additional options such as surveys and direct customer contact.

The price to pay will vary depending on the value, stage and option of the information.



Picture 6. Detailed flow of personal trust data

General Trust Data Transaction Flow

① Data Consumer makes a request for Trust Data in times of need.

② Individuals has the full right of consent/veto over the request.

③ Data Consumers have preset period for the data access.

* Every transaction to be made will be stored and managed transparently in blockchain.

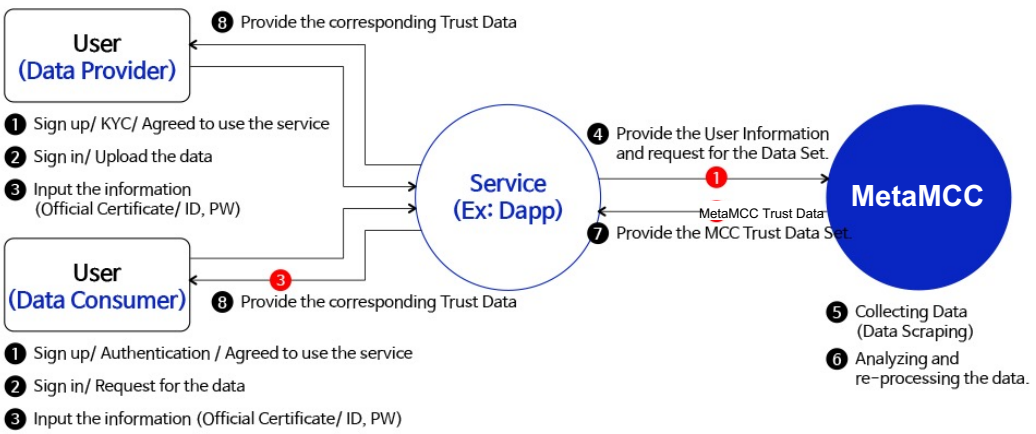
Packaged Trust Data

The advent of blockchain technology has led to the creation of various Dapps, which calls for the increasing need for user authentication. Moreover, these services are searching for the method to evaluate the trustworthiness of a user. These new demands can be easily found in the high tide of the sharing economy.

In response to such increasing demand, MetaMCC provides Trust Data Set as Middleware that facilitates the evaluation of a user's reliability.
Trust Data generated by the MetaMCC platform will create a great amount of new added value that can be desirably implemented into various businesses. Building partnerships with other Dapps and existing companies will spawn new opportunities.

With Trust Data, Data Consumer can target and acknowledge their potential customers, manage risk, and improve customer service. Data Consumer can obtain accurate and diverse Trust Data on the approval from the data subjects by joining the MetaMCC ecosystem.

Items to be provided as Packaged Trust Data are selected from the entire data within the MetaMCC platform based on the need of a Data Consumer. The cost for Packaged Trust Data will be varied by the numbers of data providers and the extent to which how much of data is included in the data set.



Picture 7. Packaged Trust Data distribution flow

Packaged Trust Data Transaction Flow

① Data Consumers make a request for the Packaged Trust Data.

② On the approval from the Data Provider, MetaMCC provides the requested data set.

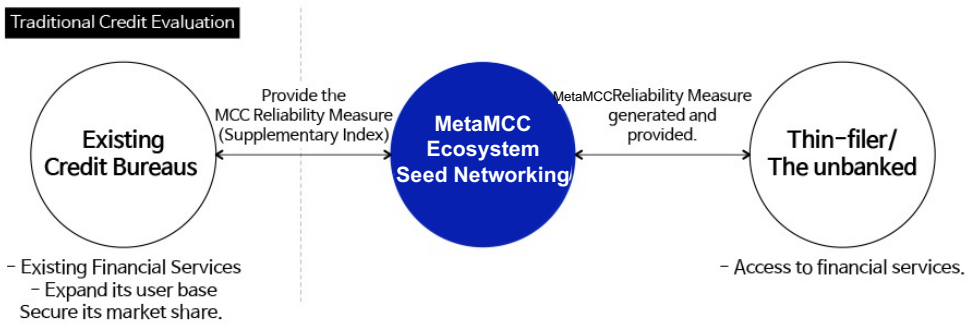
③ Every transaction to be made will be stored and managed transparently in blockchain.

* Every transaction to be made will be stored and managed transparently in blockchain.

MetaMCC Reliability Measure

If Data Consumers need a better approach to customers' credit scores, they can utilize the Trust Data generated by the MetaMCC ecosystem. Trust Data takes into account alternative data, such as individuals' spending patterns, social media activities, etc. Based on the two types of Trust Data mentioned above, MetaMCC adds one more unique feature, Reliability Measure Data of the Seed Networking. The advantage of using the MetaMCC Reliability Measure is that corporations can get the information that reveals individuals' interpersonal networking. In addition to the alternative data, it becomes a valuable measure of credibility. This unique feature of the Reliability Measure will make the Trust Data highly desirable from corporations with or without their own credit rating models.

This model is particularly effective to assess 'Thin-filers' that have insufficient credit information, and 'the Unbanked,' who cannot use banking/financial services in any capacity. By using the differentiated credit rating method from those offered by existing credit bureaus, MetaMCC can provide credit scores for those without formal CB data.



Picture 9. Creating and utilizing MetaMCC Reliability

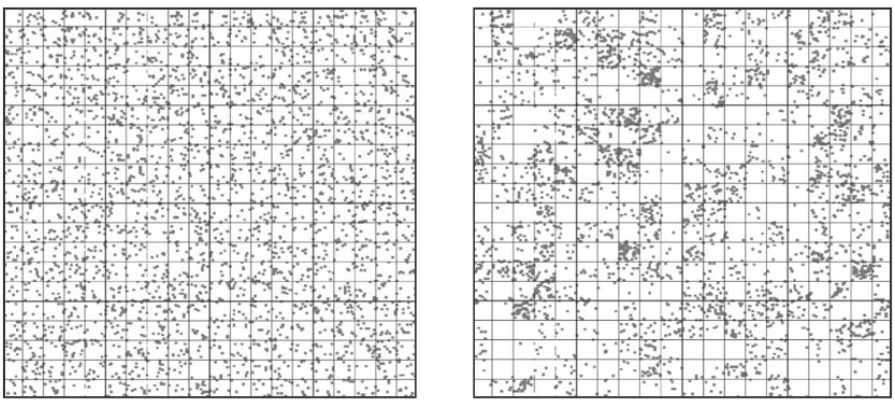
MetaMCC Seed Networking is a gift-giving mechanism. The Seeds are used as a medium of gift-giving by which an individual's reputational profile is revealed. It makes the data generated from the Seed Networking unique and different from any other data in the market.

[Attachment] MCC Seed Networking and Reliability Measure

Trust Measure produced in the MetaMCC Seed Networking reveals individuals' social interaction and reputation within the platform. MetaMCC has filed a patent application for this unique mechanism. The team from the Seoul National University Industrial and Mathematics Data Analysis Centre is currently conducting a research that interprets the potential value of the Seed Networking Data.

MetaMCC Seed Networking

What will happen if a lot of beads are put on the checkerboard and shake it? We might expect that it would show a normal distribution. It is often called the 'Gaussian Distribution' or 'Normal Distribution'. This is the probability of casting the dice, the average score of the test or the distribution of people's height. However, the actual computer simulation results are different from the normal distribution.

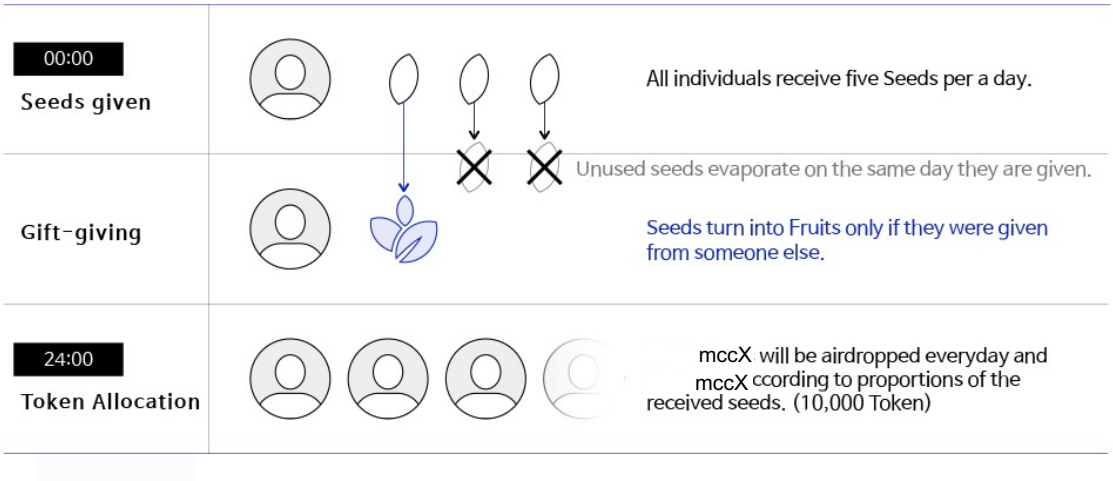


Picture 10. Normal distribution and U distribution
Data no miezaru, 2014, Kazuo Yano, soshisha Publishing Co. Ltd

This result is similar to the 'Boltzmann distribution' and it can be used to model an individual's trust level in a group in which constant exchanges of information are occurring. As in the U Distribution, certain clustering occurs. There are members clustered and members that are alienated from the clusters. Our assumption is that the clustered members are more reliable. This assumption is based on the experience of Grameen Bank micro financing. A few ideas were raised to further increase member grouping by gift mechanism. The information acquired from Airdrop Seed giving can be used to analyze the trust level between individuals in their group. It can generate a new confidence index of a person from the analysis of gift giving and receiving. This is where MetaMCC Trust Measure was created.

MetaMCC Seed Networking Flow

MetaMCC seed networking is a seed gift method within the MetaMCC ecosystem, which provides five seeds to individuals every day as of 0 o'clock to create value when they are gifted to others.



Picture 11. MetaMCC Seed networking system

This seed disappears if it is not gifted to another person on the same day, and when it is gifted to another person, it is converted into a fruit, and the fruit can be exchanged for a token at 1:1 ratio.

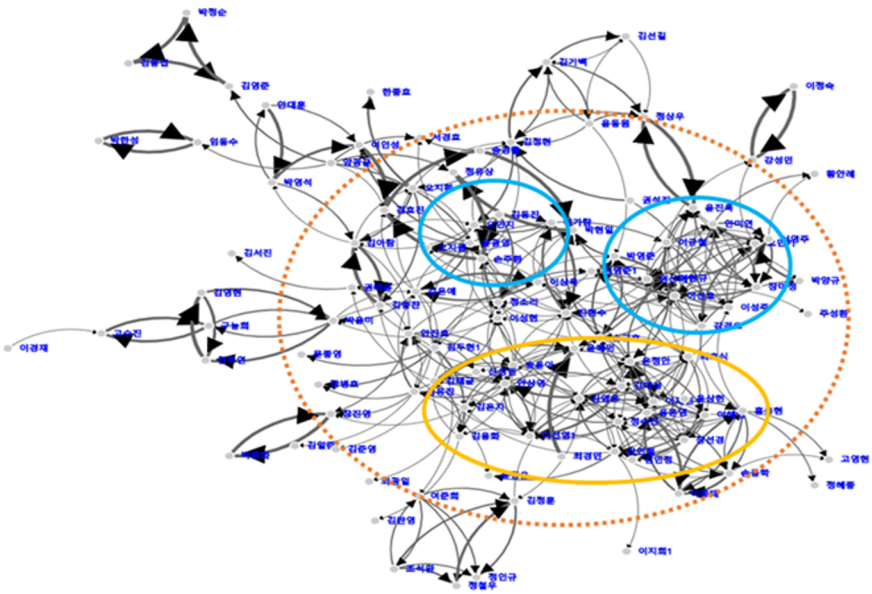
This is similar to Charles Eisenstein's alternative to 'social dividends that will ensure purchasing power' that increases the circulation of money and creates a virtuous cycle of the economy and is in line with 'Gift Economy'2).

In addition, since it is converted into value only by giving gifts, it is possible to analyze the gift relationship between people to grasp Trust Data and group structure between networks. In social relationships, people with high reliability will naturally harvest more tokens and secure a comparative advantage trust index.

3) Gift Economy : Scared Economy, Charles Eisenstein, 2011

MetaMCC Seed Networking Experiment Case

The concept of ‘Seed Gift’ was applied to the actual companies for five years and confirmed that trust networks were established.



Picture 12. F_Company Seed Networking Experiment Case

1. It reveals personal relationship map of each user. People with higher number of seed gift are the people who are popular and liked by many. These people are influential and at the leadership position.
2. People with tight connection of giving and receiving are those who have developed a close relationship. There is a high chance that these people belong to a same community.
3. People connecting with distinctively different group can be a mediator and an influencer in the groups.

By tracing the gift circles among the users, interpersonal mapping surrounding everyone is possible. This information reveals the users’ interpersonal connections and positions in their personal relationship. In addition to the personal credit information, it become a valuable measure of credibility. These measure, then, can be used as an effective marketing tool.

However, there is a possibility that few members can collude to profit one another. To mitigate the bias in such grouping, MetaMCC will allocate the seeds to the tokens by applying the 10-days rule. If an individual receives the seeds from the same person within 10 days, the conversion value will be decreased. This can be summarized in the following formula.

Sender : S (5 per day)
Receiver : R (no limit on the number of recipients)
When Ri is the interval from date received to Sj : $d(RiSj)$,

Total gift Number of seeds : $seed(T)$

$$seed(T) = S11+S12+S13+S21+S22+\ldots Sn3 = \sum_{i=1}^{n}\sum_{j=1}^{3} Sij$$

Total fruits recieved : $fruit(T)$

$$fruit(T) = \frac{1}{(10/d\,(S1R1))} + \frac{1}{(10/d\,(S1R2))} +\ldots+ \frac{1}{(10/d\,(S1Rn))} + \frac{1}{(10/d\,(S2Rn))} +\ldots+ \frac{1}{(10/d\,(SnRn))}$$

$$= \sum_{i=1}^{n}\sum_{j=1}^{n} \frac{1}{(10/d\,(SiRj))}$$

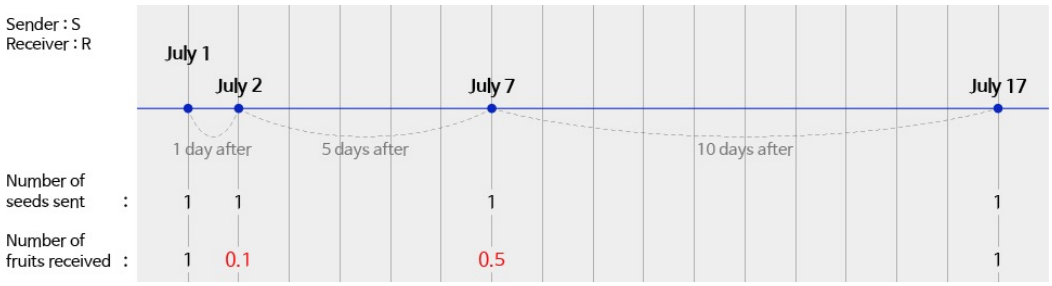
Number of fruit Ri received : $fruit(Ri)$

$$fruit(Ri) = \frac{1}{(10/d\,(S1Ri))} + \frac{1}{(10/d\,(S2Ri))} +\ldots+ \frac{1}{(10/d\,(SnRi))} = \sum_{j=1}^{n} \frac{1}{(10/d\,(SjRi))}$$

The total number of seed networking tokens (per day) : $token(T)$

The number of tokens Ri should receive : $token(Ri)$

$$token(Ri) = \left(token(T) \,/\, fruit(T)\right) \times fruit(Ri)$$



Picture 13. Seed fruit conversion ratio

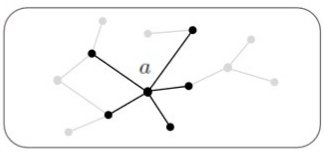
MetaMCC – Cooperation with Seoul National University for the Advanced Research on the MetaMCC Seed-Network.

MetaMCC and the Seoul National University Industrial and Mathematics Data Analysis Centre have conducted a research to graft mathematical theories onto the blockchain and digital financial industry.

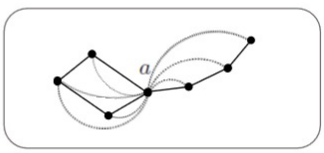
With the 7 years of the Seed-Network experiment, a conclusion was raised that trust networks between individuals can be presumed. This unique quality of Seed-Network data, then, can be utilized for various functions.

To maximize the potential of MetaMCC Seed-Network, MetaMCC has carried out an advanced research. Further information will be shared via the new version of the whitepaper.

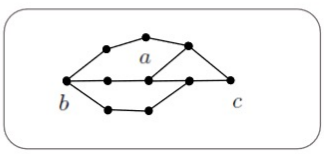
Degree Centrality
- Number of nodes and adjacent nodes
- deg(a)



Closeness Centrality
- The reciprocal of the sum of the distances between each node and another node
- CC(a) =



Betweenness Centrality
- Number of cases for paths between each node
- BC(a) =
  - σ_{bc} Is the number of paths between b and c
  - $\sigma_{bc}(a)$ Is the number of paths containing a



Picture 14. Excerpt from 'Network analysis using Centrality' report

In 2021, MetaMCC's Seed-Network Patent

Certificate of patent : Registered in Jan. 12, 2021.

특허증

CERTIFICATE OF PATENT

특 허 Patent Number: 제 10-2204070 호

출원번호 Application Number: 제 10-2019-0014117 호

출원일 Filing Date: 2019년 02월 01일

등록일 Registration Date: 2021년 01월 12일

발명의 명칭 Title of the Invention

블록체인 참여자 보상 방법 및 시스템

특허권자 Patentee

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발명자 Inventor

등록사항란에 기재

위의 발명은 「특허법」에 따라 특허등록원부에 등록되었음을 증명합니다.

This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2021년 01월 12일

QR코드로 현재기준 등록사항을 확인하세요

특허청장

COMMISSIONER,
KOREAN INTELLECTUAL PROPERTY OFFICE

김 용 래

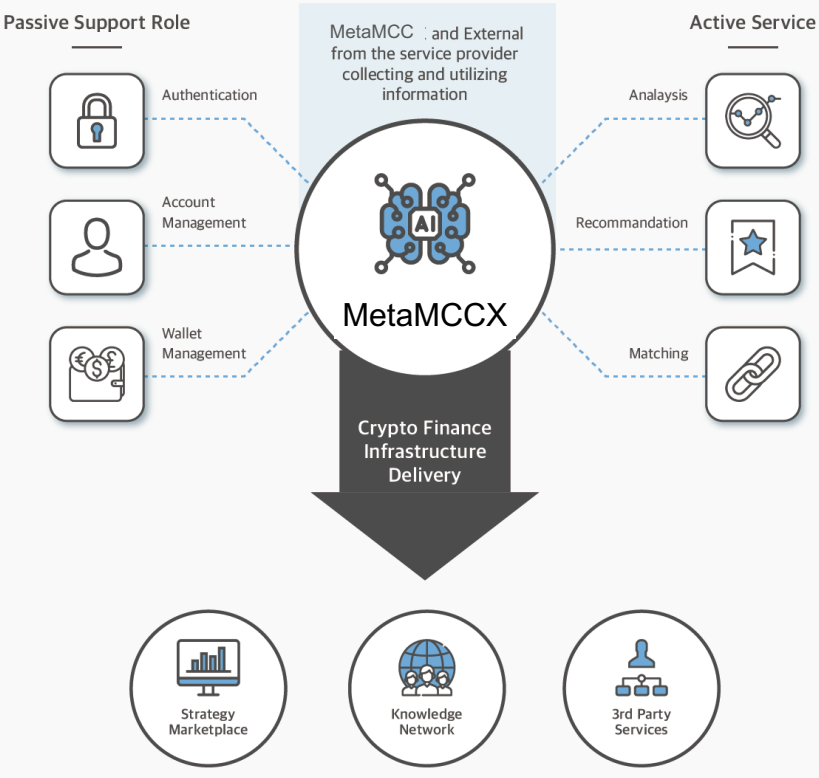
특허청
Korean Intellectual Property Office

2.3. Trust Data Varification

MetaMCCX is a middle-to-back office that plays a role of passive support such as MetaMCC's authentication, account management, and wallet management, as well as active services such as data analysis, recommendation and forecasting.

This area provides the strategy and management infrastructure. This area collects and uses information generated from MetaMCC and external service providers to provide a sound crypto management environment.

MetaMCCX Intelligence will primarily serve as a Middle-Back Office within the MetaMCC ecosystem but will provide independent service providers with independent services based on accumulated operational know-how.



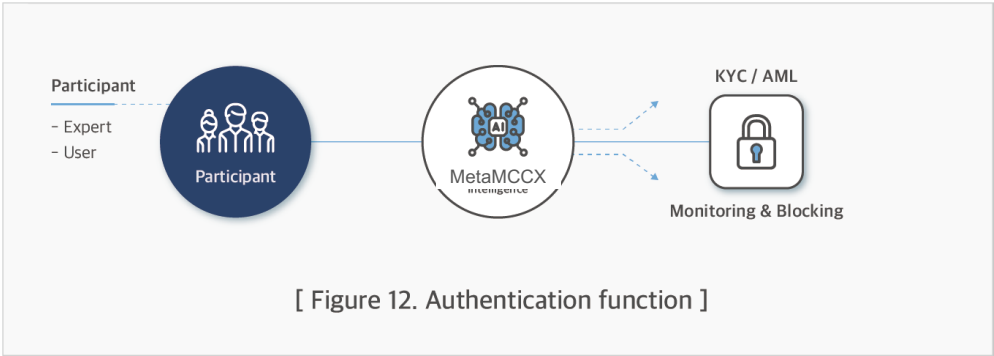
[Figure 11. MetaMCCX]

Middle Office : ontrolling market risk and credit risk, including active management, supervision, screening, and control of Front Office operations
Back Office : transaction verification, processing, and settlement settlement
3rd Party : blockchain-based service provider that produces and consumes transparent and reliable data based on decentralized governance, and 3rd Party Service is not a blockchain-based service provider but requires information from other areas of expertise.

Authentication

KYC and AML of users who access mccX are essential functions to build a trust network composed of healthy and faithful participants. It aims to create a sound crypto-management environment and monitors and blocks participants who may harm the ecosystem.

After joining, the information provided with the consent of the participants will be used for various purposes such as activation of the Knowledge Network.



[Figure 12. Authentication function]

Accounts & Wallets

As a participant in mccX, you will need to create a user account and wallet to use the Strategy Marketplace as a participant and to be rewarded for Knowledge Network activities. Wallet provided by mccX consists of wallets specialized in services such as basic personal wallet and purchasing wallet.

KYC : Know your customer
AML : Anti-Money Laundering

Personal Wallet

- Provides functions to easily connect tokens with the outside of the platform, such as transferring digital assets created outside the MetaMCC platform to the inside of the platform
- Support various additional functions such as direct debit, Escrow service

Trading Wallet

- Wallets used to trade utility tokens in accordance with crypto advisory products
- The trading of utility tokens is carried out through smart contracts, and only the user who owns the right to withdraw wallet tokens, etc., cannot access the wallet arbitrarily by a third party.

MetaMCC Wallet provides excellent security and convenience at the same time by separately managing wallets that provide different functions according to the characteristics of the service.

Token Management

It provides an engine and infrastructure that helps users manage tokens held in their personal wallets smoothly. The engine under development by the MetaMCC Platform will enable the rapid and effective transfer of tokens, and we expect that the right decisions will be made by users through an intuitively intuitive UI and various infrastructures .

Data Analysis

Collect and analyze participants 'general information, activity history information on the platform, and transaction details to support the participants' activities on the platform. All relevant information is encrypted and stored in the distributed file system MetaMCC Inter Planetary File System (IPFS) to safely and efficiently manage large amounts of information .

Artificial Intelligence Engine

Analyze and predict data collected through MetaMCC's products and MetaMCCX token activities to provide automated crypto management services in a faster, safer and more efficient way.

FDS (Fraud Detection System)

- FDS will analyze transaction DB, identifying a transaction standard and pattern within the normal range. RBA (Risk-Based Approach) will be applied to these data, and the data will be used for monitoring the unusual transactions, maintaining a sound MetaMCC Ecosystem .

Automated Compliance

- When problems arise, automated compliance will reduce the time and cost for audit by directly having access to the data on the blockchain .
- It will include Code Audit for automated financial transactions through Smart Contract and will perform the job in real time by complying with compliance standards through the periodic information update .

Reputation Scoring Engine

- Accumulate the data through service activity data and professional or regular feedback analysis activities of professional service providers such as crypto managers and analyze and score reputation of participants based on this data.
- In addition to professional service providers, we generate three-dimensional analysis and scoring of content responses generated through various activities such as simulation, report generation, and online consultation of general participants, and generate basic data necessary to decide whether to give status as a professional service provider .

Reputation Scoring Engine

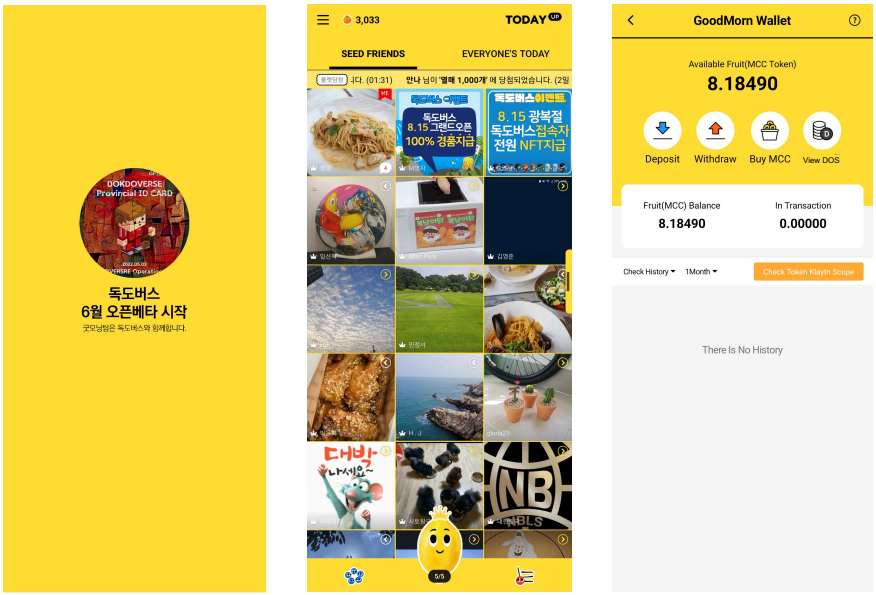
- Evaluate eligibility and assign status as a professional service provider in consideration of the participant DB information (participant information, activity history, transaction history information) and the results of reputation scoring.

Qualification Evaluation Engine

- Experts such as Crypto Reporter will independently produce contents containing professional analysis. The vast amount of specialized content produced in this way is classified and organized according to specific criteria and processed into commercially convenient forms for users or crypto experts.

3. MetaMCC ‘s Main Projects

3.1. Blockchain-based Network “GoodMorn”



Home and Wallet of GoodMorn Service

Through MetaMCC’s own platform, it launched the “GoodMorn” Dapp to secure a unique pool of users and differentiated data beyond the existing data held by other companies.

“GoodMorn” is a user-friendly Market Entry Service for building a data distribution platform and is patented as Seed Networking (Seed Gift).

3.1.1. 2022’s GoodMorn

In April 2019, the service was published concentrating in Indonesia, nonetheless due to the pandemic, it switched to a domestic target in May 2021. As of 2022, it has secured 330,000 members counting Indonesian and Korean members.

The number of downloads of the “GoodMorn” service has been more than 500,000 so far, and more than 10,000 people are accessing “GoodMorn” everyday.

3.1.2. GoodMorn’s Development Direction

MetaMMC will use “GoodMorn” service’s Seed Networking (Seed Gift) to measure reliability and identify the needs of “GoodMorn” members through user research and survey.

3.2. Metaverse Platform “Dokdoverse”

Image of Dokdoverse; Main Screen, NH Nonghyup Bank, Central Square

MetaMCC is creating a Korea representative metaverse platform called “Dokdoverse”. Starting with the Grand Opening on August 15th, 2022, it is leading the market with the Korea representative metaverse platform.

”Dokdoverse” is linked to MetaMCC’s ”GoodMorn” service.
MetaMCCX will be activated on the product and will be a good gift to the users.

3.2.1. “Dokdoverse”’s Achievements

“Dokdoverse” has secured a total of 66,000 pre-subscribers of 3.65 million in the first fifteen hours and 30,000 in the second two hours. The user can set up friendly relationships within the metaverse.
The construction of the virtual reality is aimed not only as a metaverse, but as a mega-verse, where it would be expanding to other metaverses.

”Dokdoverse” is Korea representative metaverse platform, and its partner in 2022 was positioned as a Korea representative metaverse leader by NH Nonghyup Bank.

3.2.2. ”Dokdoverse”’s Development Direction

The Future of Dokdoverse

”Dokdoverse” will be a ”Korea Representative Metaverse” centered on 100,000 provincial residents, Dokdo Certificate (NFT), which is woven with strong loyalty and community solidarity.
” Dokdoverse” will be the Central-Verse as the center of the metaverse, and later on it will be expanded to a Related Metaverse. Afther that, Central and Related-verse will merge to form a huge Valuable Big Chain called Megaverse.

The Expansion of Virtual Reality Activities

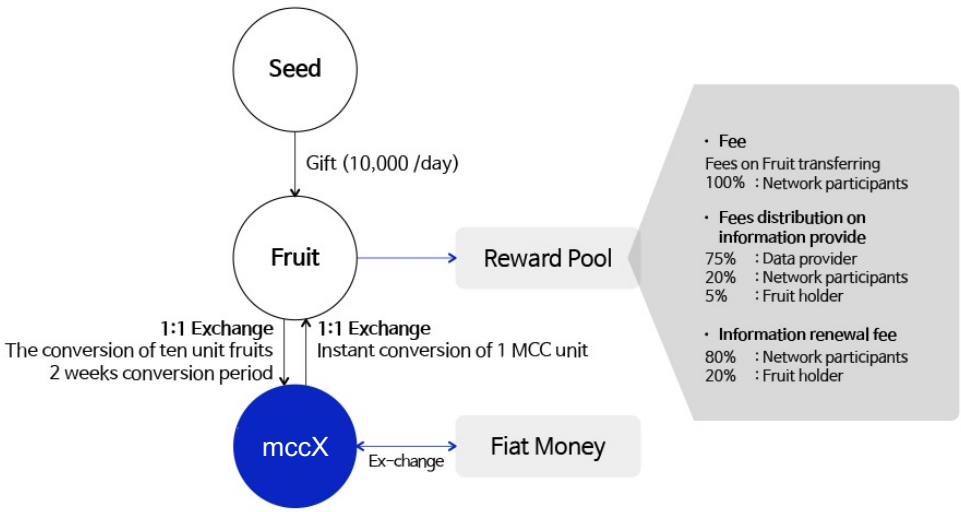
In the future, ”Dokdoverse” will be expanded to VR, offline campaigns, and events will be held. ”Dokdoverse” characters will be expanded to the entertainment field such as web novels and movies. All connection in the chain are based on Corss Avatar, One Pass identification verification, digital assets, and wallet linkage, and simple payment.

4. MetaMCC Token Economy

4.1. Definition of Token Economy

An mccX is an encrypted currency that maintains the MetaMCC ecosystem.
The value of an mccX is based on the total value of the information, the number of participants, who provide the information, and the frequency of transactions.

The cryptocurrency in MetaMCC consists of 'seed', 'fruit', and ‘mccX'.
The “fruit” is used to pay for services and information used within the MetaMCC ecosystem, as well as for transactions between individuals.
When the fruits are accumulated, those fruits can be converted into mccX once they reach a certain amount.
Each participant is also given five seeds each day, which can be used as a gift to other participants.
The seeds that are given as gifts are converted into fruits after a certain period.



Picture 16. mccX Flow : Seed Fruit Token

Seed	MetaMCC seed networking will be presented to others, and the seed transmission / reception history will be used as data to generate the confidence index. The seeds that are given as gifts are converted into fruits under certain rules.
Fruit	It is a 1: 1 ratio to mccX and is an payment instrument for transactions, services and information within the MetaMCC ecosystem.
mccX	It is an Klaytn based token and can be converted to a 1: 1 ratio with the fruit.
Reward Pool	Collected from transfer fees, information sales commissions, and information handling fees, the accumulated fruits are redistributed according to the contribution of the MetaMCC ecosystem participants.

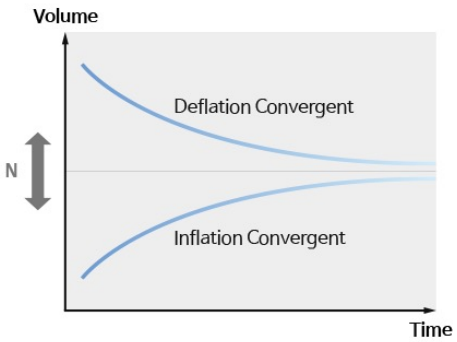
4.1.1. Retrieving Policy in MetaMCC Ecosystem

For the activation of the MetaMCC ecosystem, Silvio Gasell’s theory of 'extinction money’ is applied. By recalling tokens possessed by non-active participants in the MetaMCC ecosystem at a certain rate, it induces active circulation of the Tokens among the participants and creates a environment for valuation of the tokens that individuals possess. While Silvio Gasell suggested “hold" tax on currency, the MetaMCC ecosystem will implement a monetary rule on policy of retrieving tokens based on participants' inactivity.

Participants who do not have a seed gift or a token transaction for a month in the MetaMCC ecosystem will collect 10% of their possessed fruit (fruit and tokens are exchanged 1:1). However, the fruit to be recovered is limited to those distributed through seed networking. This policy will be applied to all MetaMCC ecosystem participants. The recovered fruit is reused for seed networking within the MetaMCC ecosystem. This encourages tokens to be actively used and encourages circulation..

4.1.2. Stability of mccX

In the MetaMCC ecosystem, the demand and supply of tokens are expected to gradually stabilize over time as seed networking and the recovery policy of inactive people are applied at the same time for one month. If it converges to a certain volume according to the size of participants & the ratio of non-users, it will be a structure in which the N value, the volume of the token, is automatically adjusted over time.
This structure can be used to overcome high fluorination, which is a disadvantage of Crypto Current, and a stable operation mechanism can be guaranteed even after the MetaMCC ecosystem is decentralized in the future.



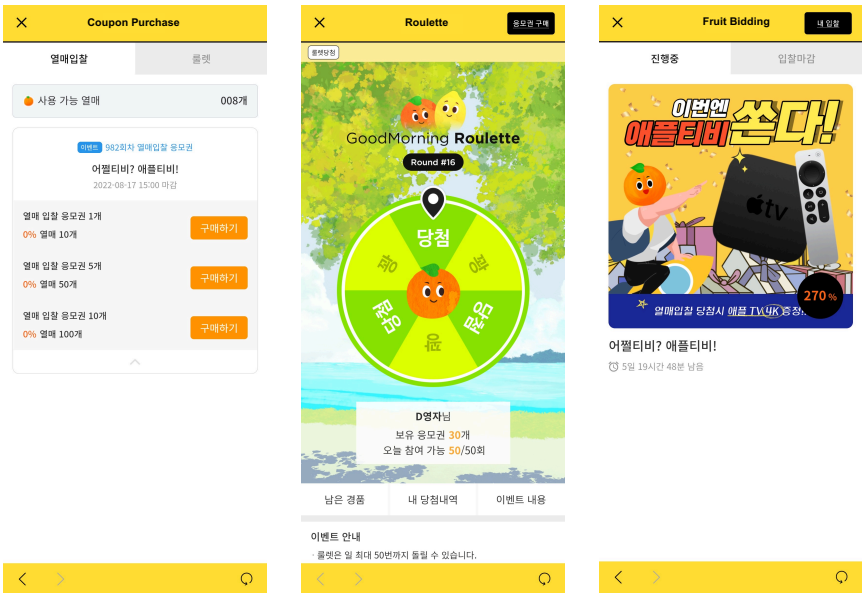
Picture 17. Stability of mccX

4.1.3. Acquisition and Use of MetaMCCX

Acquisition of MetaMCCX is possible through the main products of MetaMCC.
There are two methods of acquisition and use below.

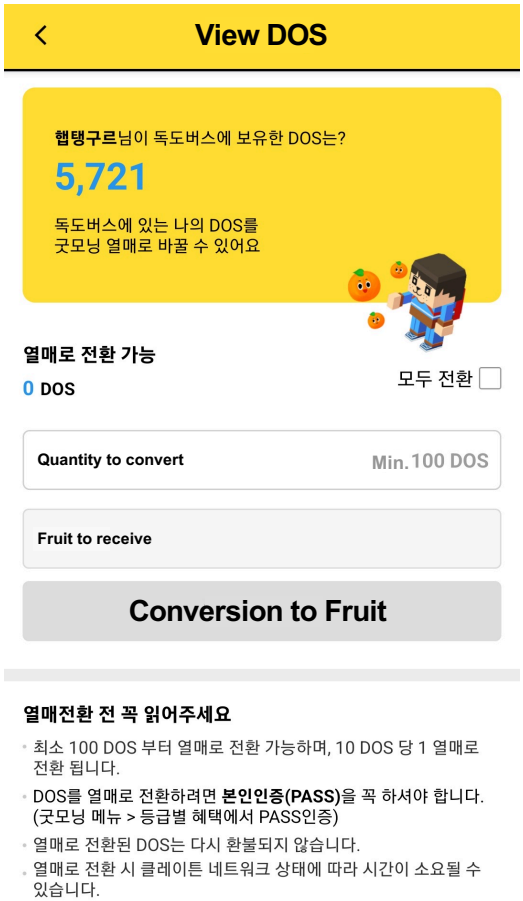
1. “GoodMorn,” a blockchain-vased service, provides five seeds a day for free.
If the user gifts these seeds to a friend, the seeds turn into berries.
Fruit and mccX can be converted 1 to 1.

2. Fruit can be used to purchase a ”license” and can be converted to mccX.
The usage of the “pass of use” can be expanded and it can only be purchased with mccX.



GoodMorn Service Coupon Purchase, Roulette, and Fruit Bidding Screen

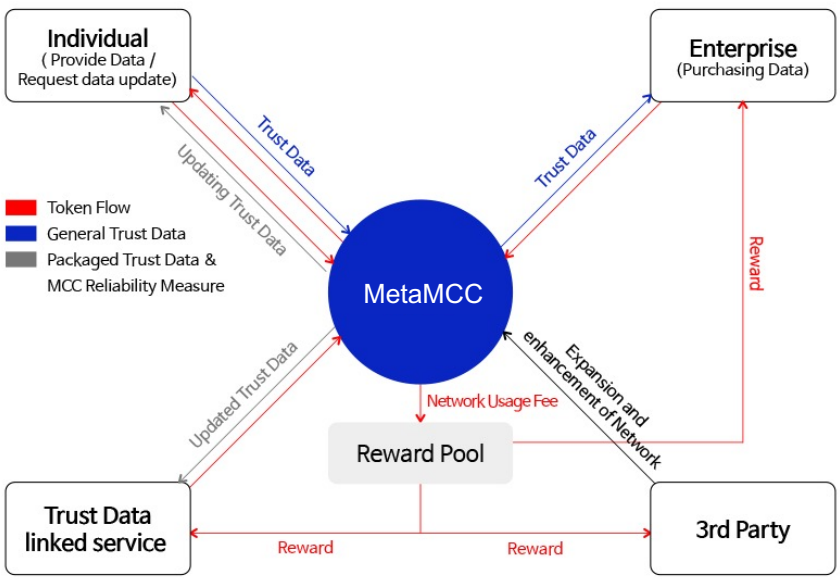
3. Through various activities such as performing quests on ”Dokdoverse”, the user can obtain ”DOS,” “Dokdoverse”’s money. ”Dokdoverse” and “GoodMorn” are linked to convert DOS to “GoodMorn”’s fruit.
*DOS is not a virtual asset; it is a monetary form used only withing ”Dokdoverse”.



GoodMorn Service DOS View and Fruit Conversion Screen

4.2. Token Mechanism

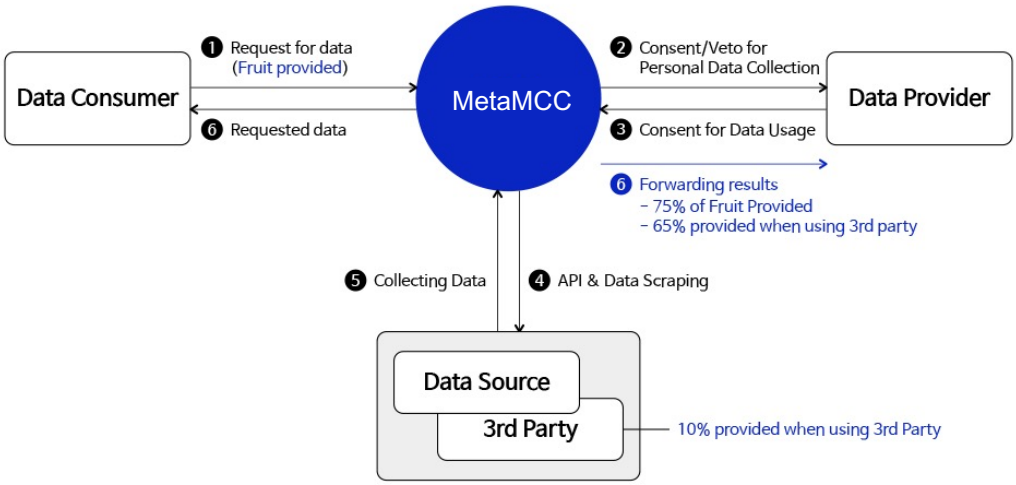
mccX is a medium of exchange and incentive for economic activities within the MetaMCC ecosystem. Tokens can be exchanged for cash (Fiat) via the exchange or used within the MetaMCC ecosystem.
The MetaMCC ecosystem provides its own economic structure and additional compensation system for the token's natural flow.



Picture 18. Distribution and Redistribution of Trust data according to mccX flow

The tokens received by individual participants in exchange for information can be converted into cash through the exchange and thus have their own economic value. Individual participants can update their trust information by paying tokens to use affiliate services such as loans and financial instruments.

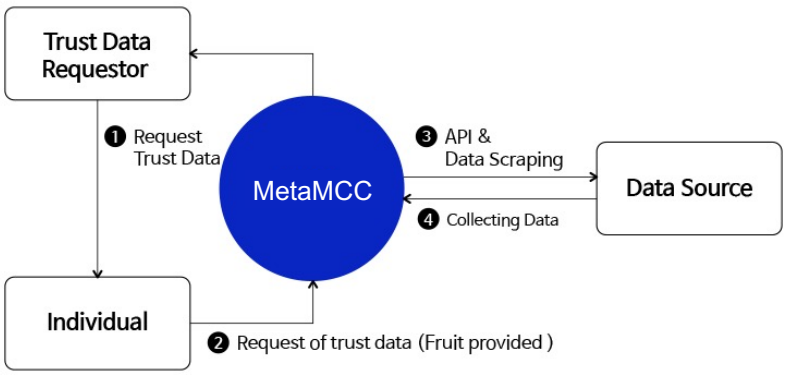
MetaMCC Foundation deposits some of fees incurred in the information exchange in Reward Pool. The deposited token may be rewarded depending on the contribution of the participants to the MetaMCC ecosystem.



Picture 19. Token Flow of data provider and buyer

It is the process by which a company requests data in MetaMCC ecosystem. When a company requests personal data, MetaMCC network collects data from social media, telecommunication companies, public institutions, financial institutions, etc., with individual's approval. If data analysis is needed, you can request the analyzed / processed data from 3rd party. In this process, the information buyer pays to the individual and the tokens are shared between the MetaMCC ecosystem participants and the individual.

It is not always the companies that request data. Individuals may need trust information in the MetaMCC. For example, if a bank opens an online branch in MetaMCC and sells a loan product, it may ask individuals to provide personal credit information. In the shared economy, trust information of the service providers will be used in various ways such as the homeowner's information for Airbnb and driver's information for Uber. The figure below describes a process where an individual submits his / her trust information.



Picture 20. Token flow according to update and provide Trust Data

This token structure reveals why companies that need personal trust information and must purchase mccX and that individuals must also purchase or keep tokens according to their needs.

tokens may be required for all participants in the MetaMCC ecosystem.
Individuals and companies will purchase, use, and hold tokens according to the need for information, which is the token mechanism of the MetaMCC ecosystem.

5. Technical Overview

5.1. System Overview

The MetaMCC ecosystem is a system for collecting and analyzing personal information, providing ownership on personal information, and generating new trust information, using blockchain to build the trust ecosystem described above.

The collection, storage, and delivery of personal information are performed on the user's consent. The data is encrypted and stored in the distributed data storage, IPFS, and the trust information transaction history (user consent, transaction purpose, transaction compensation) is supplemented to provide the stability and reliability of transactions. It provides various technologies (scraping, Open API, etc.) for collecting trust information, and provides an analysis model for trust information analysis.

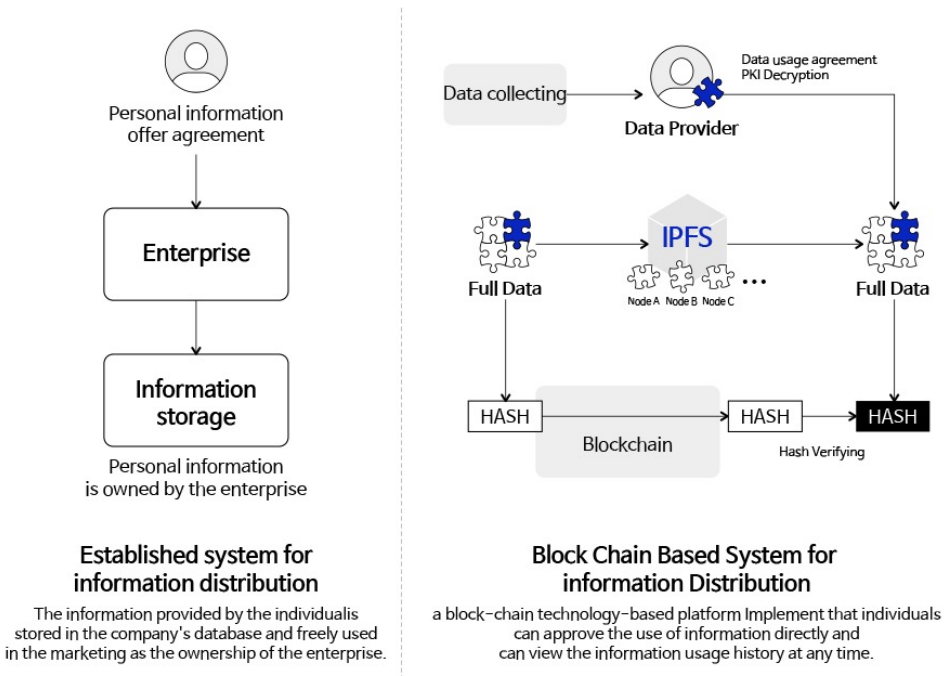
The biggest issue at this point in blockchain is transaction speed and maintenance cost. In the MetaMCC ecosystem, blackchain is divided into on-chain and off-chain. The on-chain is now running mccX on Ethereum, and the off-chain minimizes the cost of trading of trust information while maximizing transaction support.

Picture 22. System layer

5.1.1. Blockchain

MetaMCC platform is composed of the on-chain and the off-chain. At current level of blockchain technology, it is an indispensable choice for smooth service configuration. Block size limitations, processing speed issues, and maintenance costs (eg, inert gas) are major issues on the maintenance and growth of the MetaMCC ecosystem. In order to minimize this, we selected Klaytn as an on-chain main net for token distribution and constructed off-chain blockchain for trust information transaction and scalability. The off-chain candidates are examined among existing blockchain systems (Ethereum private, Hyperledger fabric, etc.) and will be decided on a blockchain that is most suitable for implementing the MetaMCC ecosystem.

Off-chain means storing data outside the blockchain. Therefore, the solution proposed from the off-chain perspective seeks to reduce transaction details by utilizing off-chain network without increasing the block size. In addition, the maintenance cost and the processing speed of the transaction should be taken into consideration, so that the service can be performed as desired, and reliability of the transaction of the trust information should be secured.



Picture 23. Block Chain Based System for Information Distribution (Right)

5.1.2. IPFS

The Inter Planetary File System (IPFS) is a P2P distributed file system that tries to connect all the computing devices to the same file system. It provides a content addressed block storage model and has a structure that can manage the high speed and its version. In the MetaMCC platform, it plays a role of storing important information that is difficult to be stored in a personal device due to its size.

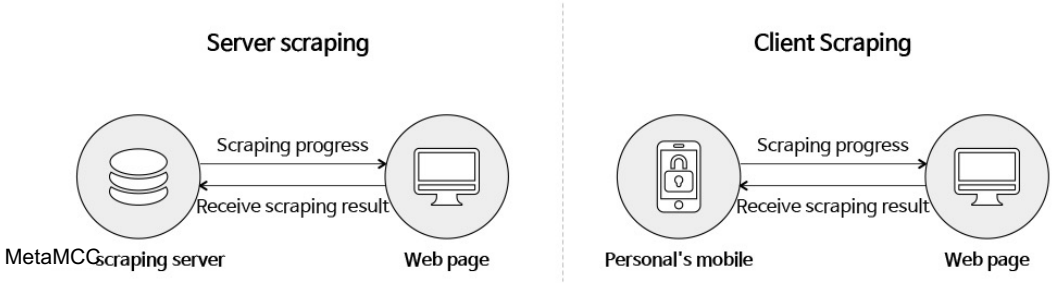
The IPFS system will be operated by the node operator. MetaMCC will make sure to check the basic conditions for authentication and node operation through the MetaMCC node operator system and give incentives to the service providers.
In the MetaMCC ecosystem, anyone can freely participate in IPFS node operation through node operator authentication, and the node operator is compensated for the node operation according to MetaMCC policy. All collected data is encrypted and stored in the IPFS and is provided only on individual approval.

5.1.3. Data collection

Data managed in the MetaMCC are collected using technologies that has the advantage of collecting data from various organizations in real time. The data collection technology implemented in MetaMCC is scraping, DRM parsing, API, etc., and it is possible to collect information through the device owned by the individual. The target organizations that can collect data may vary from country to country, but they include public institutions, financial institutions, telecom companies, and social network data.

In this white paper, scraping, one of the main techniques of collection, is described in detail.

What is scraping?
Scraping is a technology that accurately extracts the necessary information by collecting data that is displayed on the Web.



Picture 24. Two methods of scraping

The MetaMCC ecosystem uses two scraping methods as shown above.

Server Scraping

It will be mainly used for open data such as public data, and it will be collected for analysis of background data such as group or real estate belonging to individual. It is used when you need a lot of information or periodic collection.

Client Scraping

It is a method used by the information provider to collect data that can be retrieved from a mobile web page after login. For example, you can view the account balance and transaction history of the Internet banking web page, view tax payment history, and view the health examination history.

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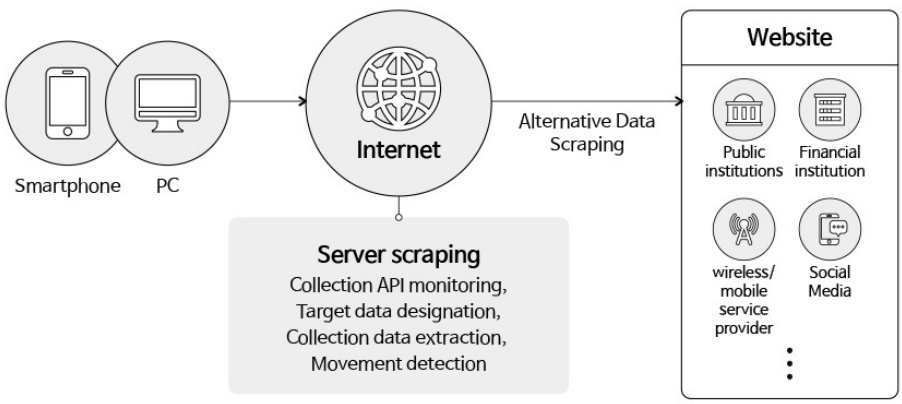

Picture 25. Scraping scheme

The MetaMCC ecosystem uses the protocol scraping method. Another collection technique is browser scraping.

The reason for using protocol scraping is as follows.

① In case of communication protocol, scrambling transmission/reception data directly through HTTP communication module.

② Since there is no extra resource consumption other than HTTP communication, more than 80% resource is saved.

③ Independent of environment setting of browser.

④ It can be maintained without modification of application due to development and maintenance of scraping separated from UI.

5.1.4. Data Analysis

The MetaMCC trust information is analyzed based on evaluation method applying various big data variables incorporating inter-personal confidence index data from seed networking. The analytic engine that generates the MetaMCC trust information is built on mathematical techniques to search for data and finds the relationship between hidden patterns and information in the data, thereby creating new customer value. In addition, MetaMCC's analytical system can utilize the Big Data platform that has been expanded or built-in conjunction with existing infrastructure through the participation of third-party companies.

Picture 26. Product recommendations using Big Data Analysis

Personal Trust Information Analysis

The inter-personal confidence index generated from seed networking reveals the individual's trust among its peers and is an original trust measure uniquely provided by MetaMCC. The MetaMCC trust information can be used to assess creditworthiness of people with insufficient credit history, and it can be used to identify the creditworthiness of customers by small-scale financial institutions without its own credit rating models as well as existing large banks.

5.1.5. API

The API Layer standardizes access and authentication protocols to ensure free participation and activities of financial institutions and third parties. MetaMCC is designed with Open API structure to ensure network performance and scalability.

The collected and analyzed data is designed in such a way that the consent of the information provider gives authorization to the information buyer and data is provided via the separate API provided by the MetaMCC ecosystem. Information request, data collection, and provision are all performed in real time, and the procedure is simple. MetaMCC will provide a convenient user environment for information buyers and information providers.

6. Disclaimers

This white paper is intended as a reference to provide the information being planned by MetaMCC team.

The content of this white paper can be amended later on, and if it revised, it will be immediately notified through its webpage, blog, etc. MetaMCC team will not guarantee and is not legally responsible for any issues relating to this paper.

Regarding the legal binding force, our current white paper briefly stated that “We do not guarantee anything related to this white paper and will not be legally responsible for it.” , but we encourage you to specifically revise it as follows. This white paper is intended as a reference to provide the information being planned by MetaMCC team.

The statements and information contained in this white paper are forward-looking statements and information, therefore, such forward-looking statements and information are uncertain as to inclusion of known or unknown risks, and the actual results may differ materially from results expressed by the white paper or the results of participant’s guessing through the statements in the white paper. This white paper has no legal binding effect on MetaMCC team and its participants. This allows MetaMCC team to modify, add or delete a part of the white paper at any time for any reason. Once it changed, modified, added or deleted, it will be published on MetaMCC team webpage, blog and others.

This white paper does not provide a guide to investment, legislation, taxation, finance, accounting, regulation, and it also not intended to drive mccX purchases, sales, or provide a basis for trading. Before purchasing mccX, investors must aware the potential benefits, possible burdens and other disadvantageous consequences through consulting with regulatory experts regarding investment, legislation, taxation, finance, accounting, and regulation.

This white paper is not a plan to issue securities, nor is it an encouragement to invest or purchase securities. Accordingly, the participant should aware that mccX does not represents securities and that the white paper is not for issuing securities, nor is there any form of dividend or voting right for mccX. Please note that MetaMCC team do not bear compensation for any form of loss, liability, or other financial damages caused using this white paper by investors.

mccX must not be provided, distributed, resold or transferred to any citizen or corporate entity (limited participant) in the area where digital token transactions are prohibited or restricted by law or policy. MetaMCC team may either reject a request to buy mccX at any time if the information, provided by the participant attempting to purchase it, is insufficient and inaccurate, or if the buyer is assumed to be a limiting participant. Transaction could be prohibited, restricted, cancelled, and invalidated whenever a participant purchase mccX on an illegal or unauthorized route. Determine whether mccX can be legally purchased in a buyer’s area and whether mccX can be resold to other buyers in particular area is responsible for mccX purchaser, not for White paper.

All responsibilities incurred by the restricted participant’s intervention is upon the participant and the person who distributed, resold, and transferred to restricted participants.

Building Trust with Your Data

HOMEPAGE https://www.MetaMCC.io/

MetaMCC