GDC Whitepaper

Global Digital Content Token for Millennial's Everyday Digital Spending

2020.06

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GDC – Global Digital Content Token

1 Abstract

Over the course of 2019, the perception of blockchain and cryptocurrency underwent gradual transformation. In the speculative market characterized by high price volatility, which lasted from the end of 2017 to the beginning of 2018, companies, institutions, experts and general investors conducted cautious research to adopt new policies, industries and businesses. Recently, global companies like Facebook, JP Morgan, WalMart, Amazon, and Microsoft have also started adopting and commercializing blockchain technology.

However, some of the initial problems remain unsolved including those resulting from general public speculating in response to the price volatility or the lack of actual uses for cryptocurrency other than those initially intended at the inception of the blockchain / cryptocurrency project. Therefore, in order to solve this problem, we intend to develop, discover and secure new applications for cryptocurrency, promoting its use in various categories and services, and issue a stable coin through our own token collateral to address the volatility issue. In addition, by introducing the sidechain plasma of the existing Ethereum mainchain for the blockchain-based platform, we will strive to solve the scalability and fee issues of the existing blockchain technology.

Expanding beyond the scope of the existing DAPP token dedicated exclusively to gaming, we intend to discover various new applications for the Global Digital Content token, namely in the domain of digital content, thus increasing token utility and universality. We have obtained new use cases by securing the Rankingball game, ArenaCast streaming service, the digital commerce KEEN Wallet of our partner KEENTO INC, as well as DTRIUMPH INC's global celeb token community Celebeco and Dual Token Generator service. We are also building a platform that can issue a stable coin GST through GDC collateral. In the future, we intend to further strengthen our business foundations through direct development and affiliation, while dramatically increasing the coverage and usability of tokens.

You have the unique opportunity to witness GDC's business development, growth and expansion in the constantly growing global digital content market.

2   About GDC

2.1   Expansion direction

GDC is aimed at expanding its use to global digital contents. To this end, we are developing our own services and expanding our partnerships. Without limiting ourselves to the existing game service, we are constantly expanding categories of offering and improving usability, accessibility and scalability.
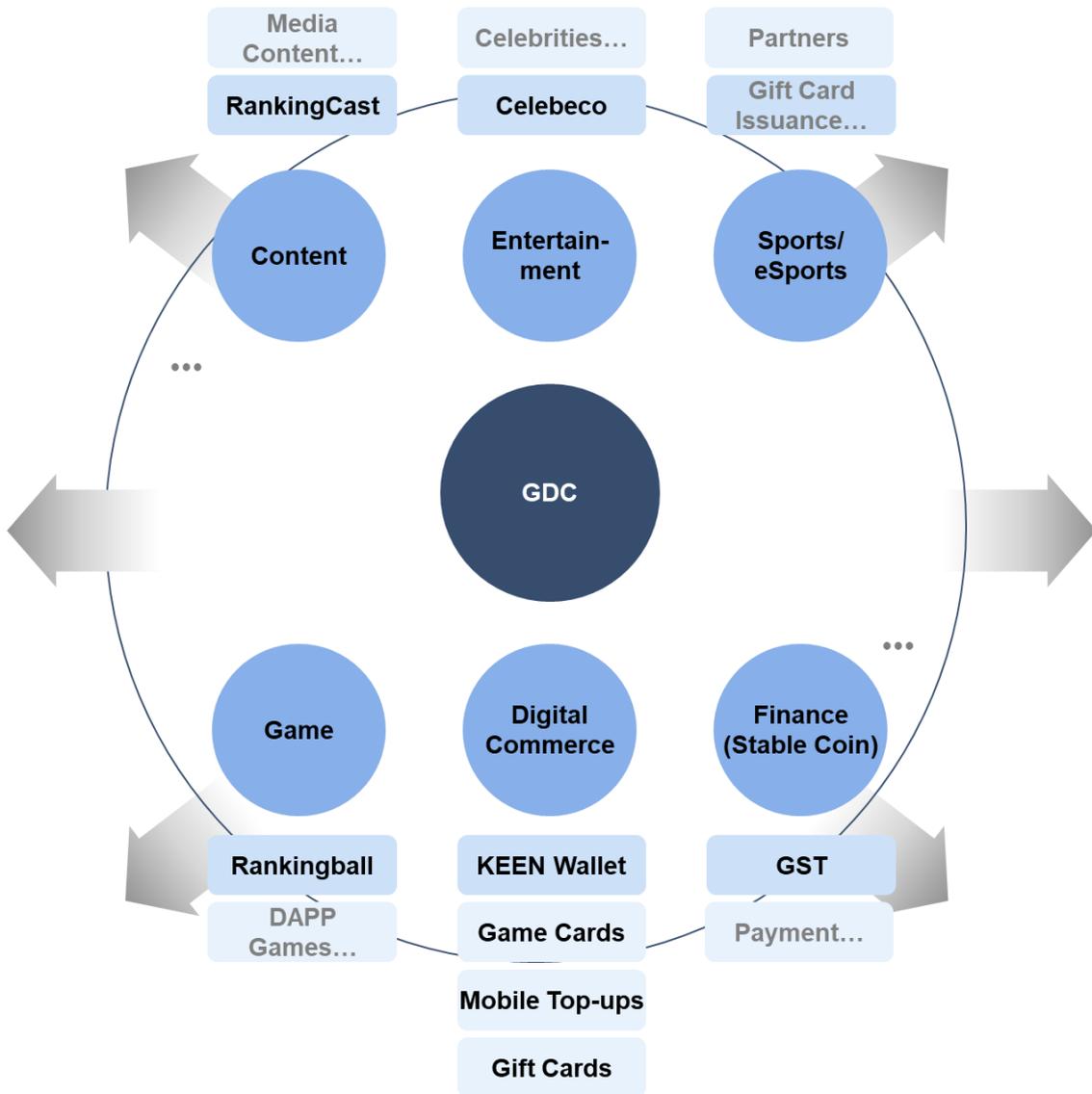
[GDC Ecosystem]

GDC is intending to expand its scope of use to various fields including gaming, entertainment, media contents, finance, sports and e-sports. In the field of gaming we are expanding our cooperation as game money with blockchain-based games like the existing game service, while also partnering with a digital media company as a payment method for digital products. We are also making necessary

preparations to issue a multi-lateral stable coin based on GDC and other cryptocurrencies. Direct development and affiliation activities are being carried out to prepare various business directions including media contents, celebrity tokenization, and gift cards for the purchase of sports/e-sports-related products.

2.2 Characteristics of GDC

Contributing to the creation of value for digital content assets

Through the GDC token, we aim to increase the liquidity, accessibility, and solvency to facilitate the sale and purchase of digital content worldwide and, as a result, increase the value of digital content assets. The Global Digital Content Token, GDC Token, will allow global users/consumers to easily access digital assets, thus helping to increase their value.

Numerous actual use cases

As mentioned above, it will not be limited to the current game, but rather applied and used in various fields such including various other games, digital commerce, stable coin, etc. Currently, we are preparing the stable coin project based on the RankingBall game, ArenaCast streaming service, KEEN Wallet digital commerce and wallet, GST stable coin (GDC or ETH collateral) by maintaining the existing uses for GDC and continuously existing new ones.

Global Content Standard/Integrated Payment Instrument

We are trying to facilitate payments to allow people purchase various content from different countries with one token. We will provide an integrated instrument through the combination with the stable coin (GDC or ETH collateral) GST including GDC or through the use of an appropriate token for each service.

3 Target Markets

We will advance our business with digital contest as the larger field while targeting adjacent areas. We will extend the spheres of use by discovering new applications with a special focus on areas with globally high demand and applicability for utility tokens, in particular where the consumption of content by millennials is high.

Main categories will include games, digital commerce, finance (stable coin), media content, and entertainment. After securing each vertical category, we will expand to include new ones. Extended categories include businesses described below.

3.1 Global Content

Global digital content and entertainment market is actively growing online and the Asian region. By 2021, the global media & entertainment market is expected to reach USD 2.2trn with an average annual growth rate of 4.4%[1].

The global digital content market is rapidly growing at an annual average growth rate of 10% as of 2019 and will expand to USD 300bn in 2023. Furthermore, 41% of growth is coming from the Asian market, where the key drivers of growth are mobile and online content consumption.

3.2 Digital Commerce

Through the partnership with KEENTO INC, a company dealing with wallets, easily accessible and consumable games, mobile top-ups, and gift card commerce, we are providing direct/indirect support as a means of payment for the corresponding products. This is a large market with high consumption by millennials in Asia / Europe. Additional markets are as follows.

3.2.1 Games

As of 2018, the game market was worth USD 137.9bn with 2.4 billion users. Based on that, it is expected to show continuous growth reaching USD 180.1bn by 2021[2]. The smartphone market is worth USD 56.4bn and is the main part of the game market (market share: 41%, growth rate: 29%), PC games are worth USD 28.6bn (market share: 21%, growth rate: 4.5%), console games are worth USD 34bn (market share: 25%, growth rate: 4,1%). The market share attributed to Asia exceeds 50%.

3.2.2 Mobile Top-up (Prepaid cards)

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[1] Perspectives from the Global Entertainment & Media Outlook 2018–2022 (PWC, 2019)
[2] https://cdn2.hubspot.net/hubfs/700740/Reports/Newzoo_2018_Global_Games_Market_Report_Light.pdf

Mobile top-up was worth USD 265bn in 2018 and is expected to reach USD 659bn[3]. Postpaid and Prepaid market shares are showing growth. With 5.7 billion users, its market share is 70% but only 30% by the volume of sales. Moreover, the main markets for mobile prepaid are Asia (50%) and Europe (20%).

3.2.3 Digital Gift Cards

Combined with the existing retail products, gift cards are showing remarkable scale. Expected growth here is from USD 585bn in 2016 to USD 1.5tn in 2023[4]. Particularly popular in Europe and the US, up to 75% are combined with retail (department stores, e-commerce, discount stores, franchises, restaurants, etc.) Rapid growth has been observed after the beginning of the issuance of digital cards.

3.3 DeFi blockchain-based finance (stable coin)

Stable coins are issued not only by global companies like Facebook, JP Morgan, but also by large exchanges like Binance and central banks. Currently, very few people use cryptocurrency in their everyday lives. For the majority, it is still mainly a means of investment or speculation. As a medium for value storage and exchange, cryptocurrency offers convenience, security and transparency in the digital world. However, due to its price volatility, it is still far too inconvenient for the wider public to use for exchanges, payments and settlements. This is why many entrepreneurs are focusing their efforts on issuing stable coins combining the traditional advantages of a cryptocurrency with steady value volatility and secure issuance.

3.4 Others

In addition many other industries based on the existing scale, are accelerating and gradually growing in combination with blockchain like for example, media content, entertainment through celebrity tokenization, smart contract giftcards for sports and e-sports-related products.

We intend to expand the coverage of GDC and strengthen its utility in the global content market through direct development and partnerships, focusing on the verticals mentioned above.

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[3] Prepaid market is an operator blind spot – research (telecoms.com, 19.02)
[4] Global Gift Cards Market Research Report 2018 (QY Research, 18.10)

4   Use Cases

The most remarkable advantage of GDC is its scalability and the availability of existing use cases. Let us see some examples of use cases. Below are the acquired, developed or affiliated services that will be provided.

4.1   Digital Commerce

Digital commerce will be done in partnership with KEENTO INC.'s KEEN WALLET. We will provide a marketplace for that, and provide an escrow/exchange service. We will also sell game money cards, mobile top-ups and gift cards in South-East Asia and Europe. GDC will be used directly/indirectly as a means of payment. (Stable coin GST) is expected to be applied.

4.1.1 Marketplace

This is a service allowing sellers and buyers to directly list their goods and trade them using a platform like an open market. Stable coin GST issued with GDC as collateral will be used as a key currency, while within the system it can be exchanged for GST points. The structure and functions of the KEEN WALLET Marketplace/Escrow service are as follows.
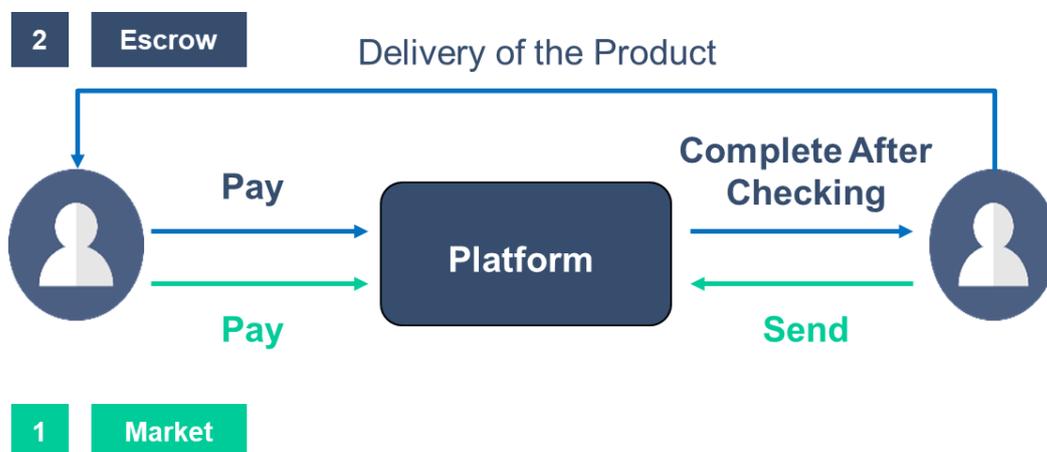
[Marketplace and Escrow Structure]

-   Sell method: products are listed in separate categories such as games, mobile top-up, and gift-cards. Available products need to be listed as products for sale.

-   Provided Information: Category, Product Name, Seller, Price, Quantity, Sale Price History, Sale History

-   Purchase Method: purchase by pressing the direct purchase button, pay using the points received in exchange for the GST stable coin.

– Transaction Method: after the transaction is complete, the product and the payment points GST are sent to the account associated with the member id.

4.1.2 Escrow

This is a sales registration method similar to the existing service for the sale of used goods. The goods are registered and then exchanged for a deposit.

– To sell a game item the seller must enter the basic information and the payment method.

– Basic registration information: category, product name, quantity, payment method, price, image and description.

Payment Method

– The buyer deposits the amount equivalent to the price of the product.

– The seller is given an alarm showing the purchase request. Then the product is sent by e-mail/sms.

– When the buyer receives the item from the seller, the platform confirms the purchase and remits the deposit to the seller.

The above marketplace and escrow service will promote digital content trade by involving various entrepreneurs and individuals.
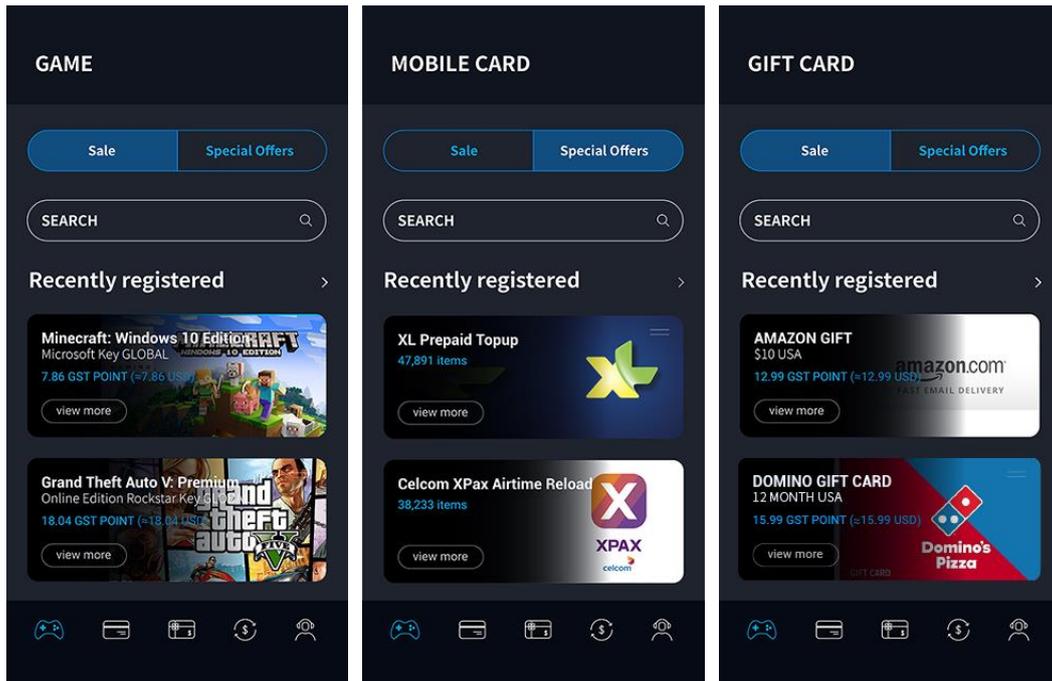
[Game, Mobile and Gift Card products within the KEEN WALLET]

4.2 Media Content

4.2.1 ArenaCast

Streamers will use the direct streaming service to broadcast sports and e-sports games along with our game. Streams can receive donations and rewards in GDC. Users from other platforms (Twitch, YouTube, etc.) will also be able to broadcast and share clips and receive donations and rewards. As streaming services are actively growing around e-sports, we hope that the simultaneous broadcasting of our game and other e-sports games will be familiar to the users used to the existing streaming and donation system.

[ArenaCast]

At this point, we are beta-testing broadcasts of MLB, NFL, NBA and LOL games. Later, we will involve streamers from various platforms.

We will also actively expand by partnering with other streaming/media content platforms.

4.3   Game

4.3.1 Rankingball

Rankingball is a casual fantasy sports game offered as a service mainly in the North America. We have digitized real-time events in sports/e-Sports according to their frequency and significance to create a new scoring system that was then combined with an existing Fantasy Sport and Bingo game. We aggregated real-time events occurring during actual competitions into a real-time data feed that was used to operate the game. This system demonstrates outstanding scalability and can be applied almost to any existing individual or team sports/e-sports. In the past 4 years, we have successfully completed the beta testing of the game on traditional sports like baseball, soccer, basketball, American football, cricket and golf, as well as major e-Sports like LOL, PUBG and CS:GO. Service combined with tokens is currently provided via Rankingball.com and Rankingball.net. Non-tokenized service is available at goRankingball.com, Google Play and App Store.

Sports: Baseball and Soccer

[2018 MLB Baseball Service Screen Shot]

[2017~18 EPL Soccer Service Screen Shot]

e-Sports: League of Legend and PUBG

[2018 LoL Service Screen Shot]

[2018 PUBG Service Screen Shot]

4.3.2 Other Games

We are continuously discussing possibilities to conclude partnerships and use GDC as a means of payment for game/play money in various blockchain-based games. Information will be released later

4.4 Entertainment

4.4.1 Celebeco

Our partner Celebeco provides a platform for trading global celeb popularity and brand value. Two platforms are provided. The first one is the CEL Market using CEL (points) to operate the Celeb Index showing the popularity/interest generated by the celebrity. It is a fan-driven platform offering a market offering celeb-fan interaction where fans can sell and buy celeb popularity calculated in index for fun. Secondly, there is an ECO Market where the key currency ECO token or other major tokens (BTC, ETH, etc.) can be traded with Celeb Tokens, utility tokens issued in direct collaboration with celebrities. We are planning to promote GDC as Celebeco's key currency. Celebeco is a market for trading based on the real value of Celeb Tokens while creating real celebrity-related use case as the token is issued by the celebrities.

[Celeb Information Page (Example)]
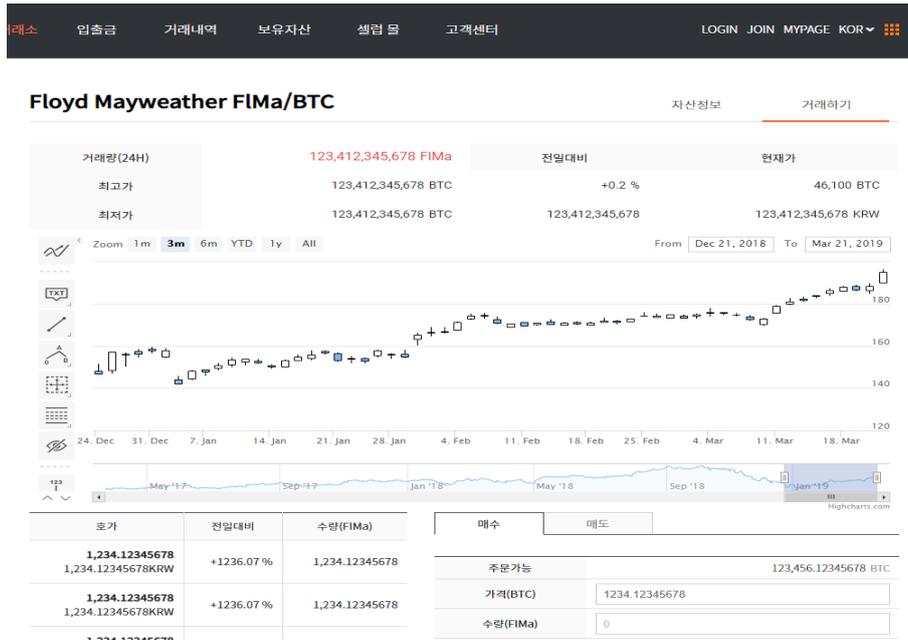
[Transaction Interface (Example)]

4.5   Finance

For use cases requiring the stability of GDC, we will issue a multi-collateral stable coin GST based on GDC and other cryptocurrencies. We will also introduce a commission token BST to manage it. To solve the shortcomings of the existing cryptocurrencies, it will use the network of the Ethereum sidechain plasma to run faster while also offering a cheaper fee.

4.5.1 GST (Stable Coin)

GST is a cryptocurrency collateral-based stable coin. It is a multi-collateralized debt position using multiple cryptocurrencies like GDC or ETH as collaterals.
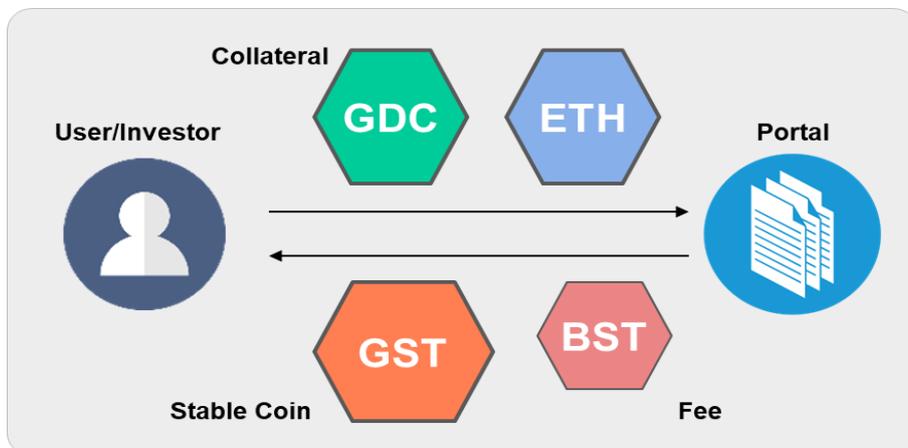
[GST Issuance Structure]

GST is a stable coin that will be used for Rankingball and various other platforms to be launched in the future. Since GST 1 is pegged to USD 1, this coin has a low enough price volatility allowing it to be used as a means of payment. While minimizing the inconvenience of its use as game money or prize money stemming from the price volatility, we are also working on expanding its use cases to other services.

4.5.2 BST (Fee)

BST used for GST governance is an ERC-20 token with price volatility. When settling payments in GST, one needs to pay a fee. This fee can be paid exclusively in BST. As the utility of GST increases, the demand for BST grows, and so does its price. BST received as a penalty for liquidation and forced liquidation is immediately removed, reducing the volume of distribution, so that the BST price steadily rises. This mechanism ensures that, as the number of use cases of GST increases, the demand for BST grows and the token price also increases.

4.5.3 Plasma Network

The above GST and cryptocurrency collateral platforms are formed first in the Ethereum's main chain. In the future, they will use a sidechain, the Plasma Network which will significantly improve the scalability and fees. It will guarantee a much faster speed and lower commission compared to the Ethereum main net.
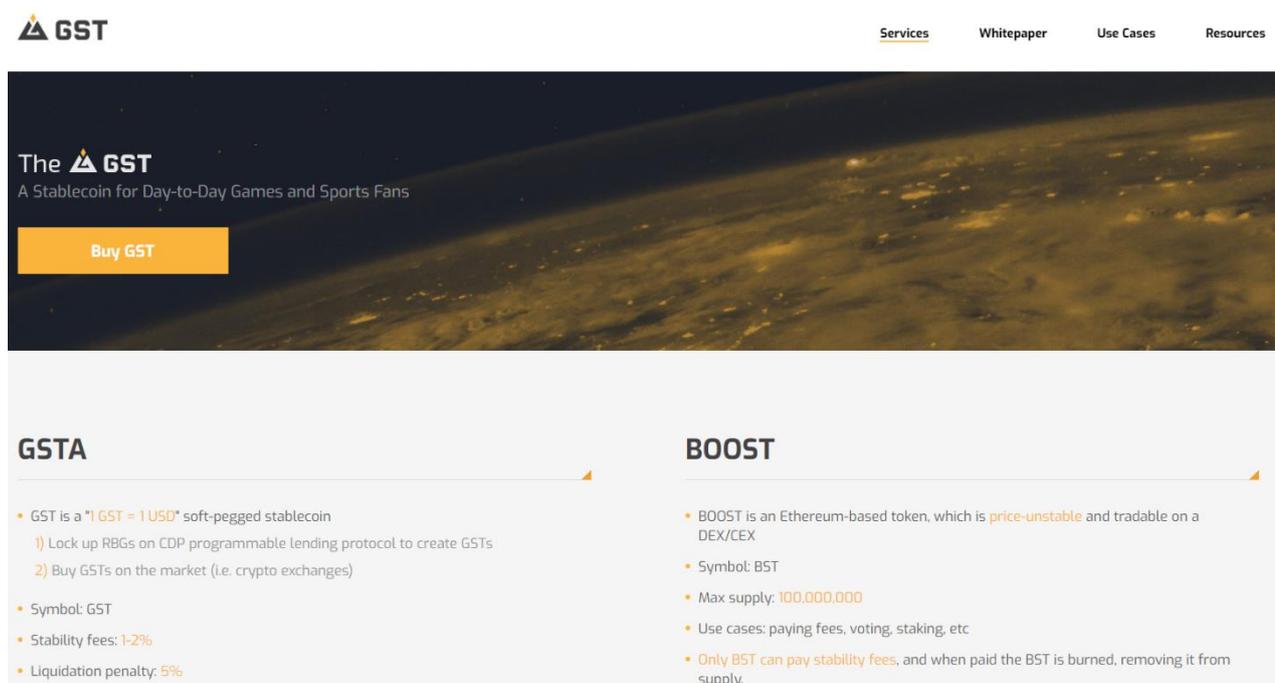
[GST Portal (under development)]

4.6 Wallet

With the KEEN WALLET, it will be possible to use the service in connection with other proprietary trading platforms, as well as to store and send digital content and items from smart contract-based games.
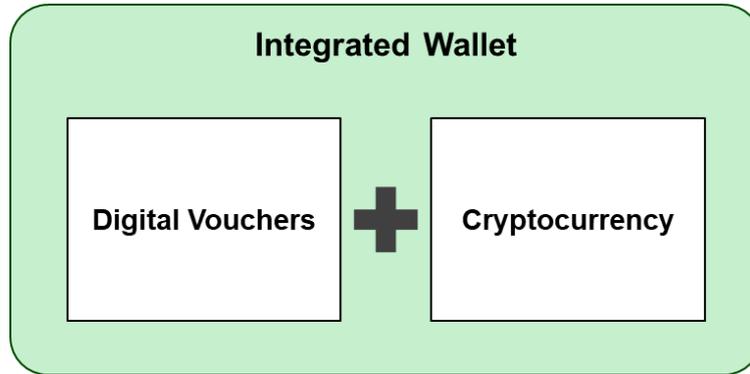
[Wallet Structure Concept Diagram]

Main Functions

- Wallet Points: means of trading within our platform, will be converted to the points for the internal GST (stable coin) service

- Digital Assets: store sold/purchased items/digital content.

- Provided Information: asset quantity, price, transaction history (transaction hash, quantity, delivery status, delivery date, received address, gas cost), etc.

- Deposit: generate individual keys to receive deposits.

- Withdrawal: Allows you to transfer assets based on the other party's address entry.

- Security: Login with password when logging in and re-enter password for withdrawal (withdrawal of assets).

5 Technology

The platform is designed to handle token generation, emission and distribution in one place. This allows the entrepreneur to trade seamlessly, securely and transparently. The company's smart contract/token creation/issue platform will enable future operators to easily enter and generate digital content (vouchers, game money, content, etc.).

Tokens can be created immediately after entering product information. Tokens can be created immediately after entering information (name, category, etc.) and token values. Tokens are created based on the Ethereum sidechain Plasma to record transaction summary values in the main chain and keep transaction records transparent and stable. Tokens created in-house are designed to trade at low cost and high speed using a sidechain.

5.1 System Architecture
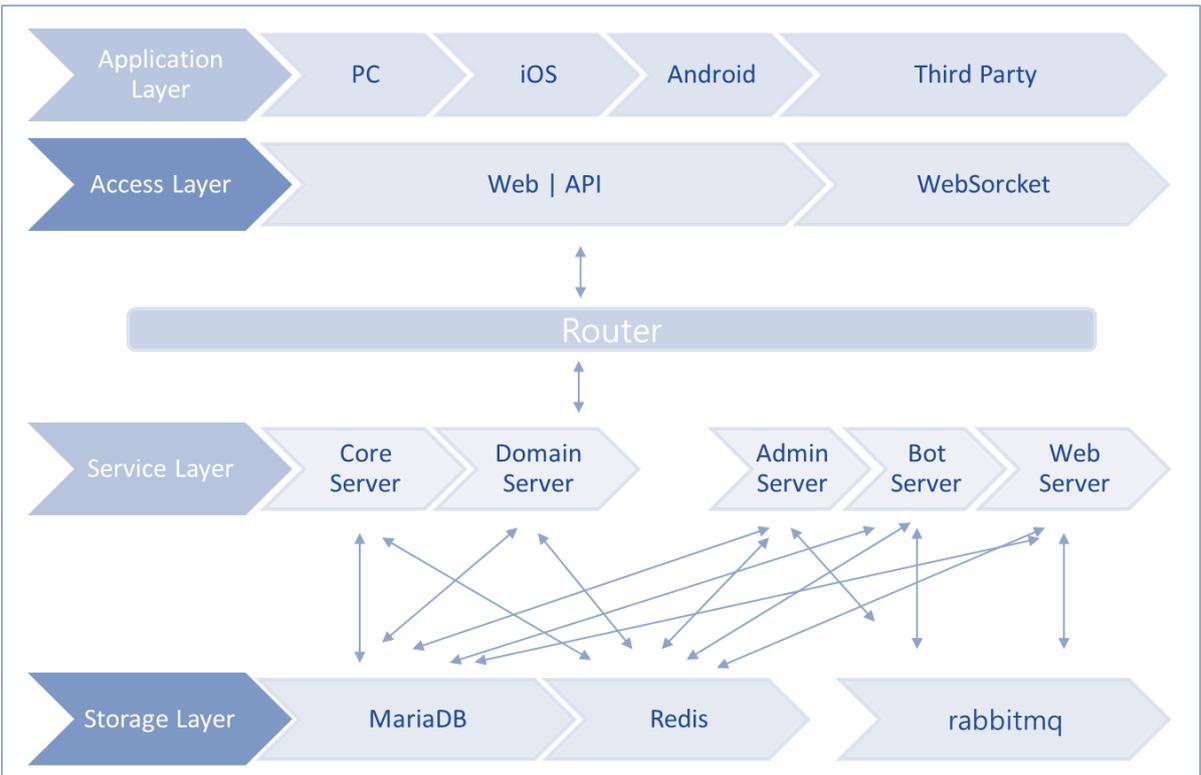
5.2 Code structure

Description

Runs as a multi-process on the cloud platform using AWS, Messagequeue, Websocket, and Redis functions, and can be scaled when more performance is needed using asynchronous and

message queues. In addition, Ipfs, Client-js, and Dapp technologies are used to encrypt and store user information and to make sure only registered devices are granted access.

Required systems

MariaDB: Used to save customer information, log information, user transactions/order information

Redis: secondary storage ensuring faster processing by storing information in memory

Rabbitmq: A message system.

Skill

Spring boot, Redis, Rabbitmq, Mysql, Jpa, Websocket, Jquery, Bootstrap, Ipfs, Client-js

Module

Third Party-Token API Execution Order

1. Token Contract Deploy – Deploy Token to Ethereum Node
2. Creating Serialized Transactions – Raw Transaction Sign Based on Private Key
3. Serialized Transaction Transfer – Serialized Transaction Transfer
4. Token Mint – issue multiple tokens at a time without quantity limitations
5. Token Transfer – Token Deposit

5.3 Blockchain Wallet

5.3.1 Blockchain-based cryptocurrency and digital content asset storage wallet

Wallet divides existing digital assets (cryptocurrency, etc.) from digital content assets. It can store and send digital assets just like the existing wallets. But as a game item wallet, it can also store and send items based on smart contracts, or can be used for standalone exchange or in conjunction with marketplace.

5.3.2 Blockchain Digital Content Marketplace

This is a service allowing sellers and buyers to directly list their goods and trade them using a platform like an open market.

−   We start an ASP.Net web service using Jquery and Bootstrap. User and product information are

saved using Microsoft's Sql Server Database.

- Introduce a queuing system such as RabbitMQ or MSMQ to block the leakage of processing logic for sales/purchases by members.

- Frequently called blockchain information is stored in Redis, an in-memory DB, which helps members to obtain information more easily.

5.3.3 Digital Content Product Marketplace based on Fungible Token-based Smart Contract (FT) / Non-Fungible Token-based Smart Contract (NFT)

Sellers register and deliver ERC-721, ERC-1155 or Non-Fungible smart contracts to the platform so that they are automatically delivered to the buyer at the time of purchase.

- Base technology: Recharge and settle payment points in the platform using Plasma-based blockchain.

- Sale Method: Register your digital content on the Marketplace divided into game cards, mobile top-ups, and gift cards. Set your items for sale inside the Wallet.

- Information provided: mention game name, product name, seller, price, quantity, transaction price history, transaction history (Wallet transfer).

- Purchase Method: Purchase using the direct purchase button assigned to the item using your available points.

- Transaction Method: When the transaction is completed, the wallet-related goods and payment points linked to the member ID are sent.

5.4 Item smart contract issuance API ensuring transparent retention/transmission record for 3rd parties

5.4.1 API for creating / issuing smart contracts

- Utilizes Plasma EVM based on Ethereum's sidechain Plasma Chain to support the creation of item / content smart contracts by operators / developers.

- We connect to Ethereum and record plasma chain block summary values to the main chain to ensure that essential record elements are recorded, stored and shared transparently.

- Plasma EVM dramatically solves the chronic issues of the main chain, namely its low scalability and high fees.

– To create smart contracts within our platform, we offer a smart contract creation solution based on Plasma EVM.

– We introduce queuing systems such as RabbitMQ or MSMQ to increase the processing efficiently of the API processing logic.

5.4.2 Smart contract creation and linkage

– The information, images and documents related to smart contracts, game items, and digital contents (game money, vouchers, carrier prepaid cards, etc.) must be uploaded first. After that smart contract support will be provided when entering and delivering parameter values.

– Game items and digital contents are developed by developers using our APIs.

– We ensure that items/content can be used equally on the platform/service of our company and that of the developer.

6 Token Economy

GDC is a utility token that will be used as a payment method in the digital content ecosystem, formed through direct development and partnerships with affiliated companies. We apply the token model to blockchain-related business and traditional business alike. In addition to using it as a payment instrument, we have also designed rewards for continuous use. Rewards will be specified in the policy for each project.
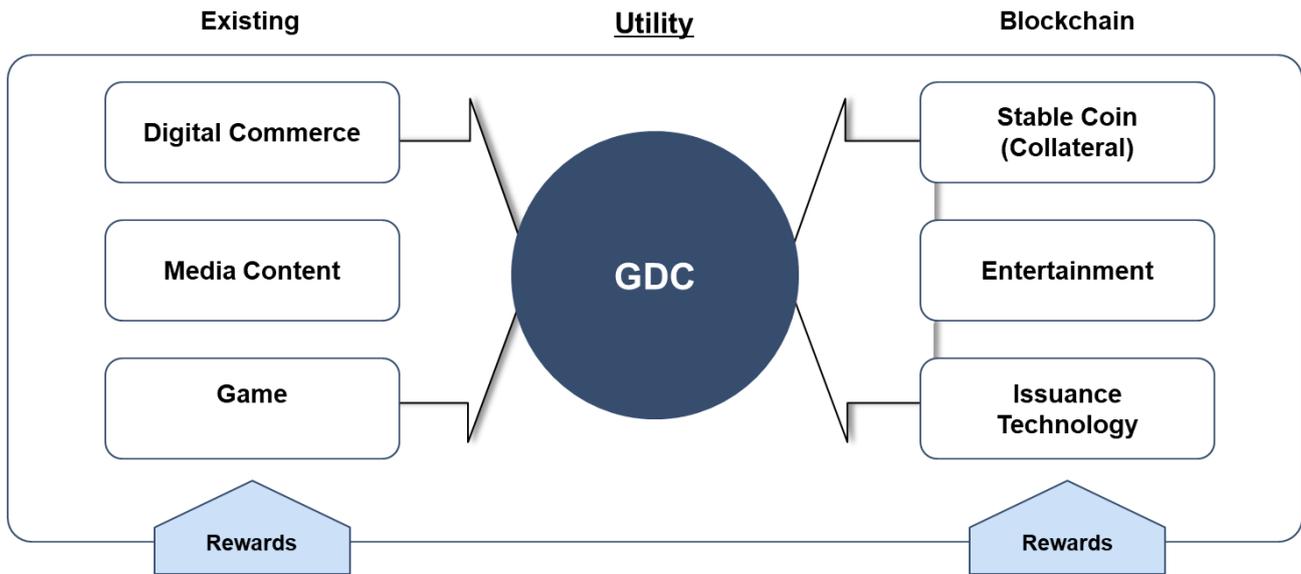
[GDC token usage direction]

6.1 Token Metrics

The total token supply was set to 4.76B. There will be no separate sale, and GDC is currently listed at Coinbene and Kyber Network.

Section	Description
Token Name	Global Digital Content Token
Token Symbol	GDC
Total Supply	4,765,815,836
Token Price	(Listed)
Accepted Currency	BTC, ETH, USDT
Lock-up	Advisors & Early Investors: 6 months Team: 2 years

6.2 Distribution

Token Allocation and Distribution Rules
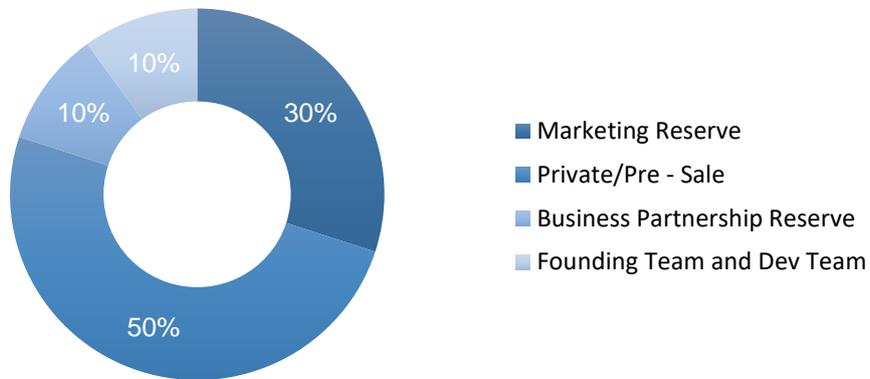
- 50% will be available to participants (Sales) – DONE

- 30% will remain in the marketing reserve for user growth, internal and external loyalty program, bounty, and etc

- 10% will be distributed among business partners

- 10% will be distributed among founding team and dev team members (2-year vesting)

- All collected funds shall be received and stored on wallets with multi-signature

6.3 Use of Proceeds:

Use of ETH Proceeds
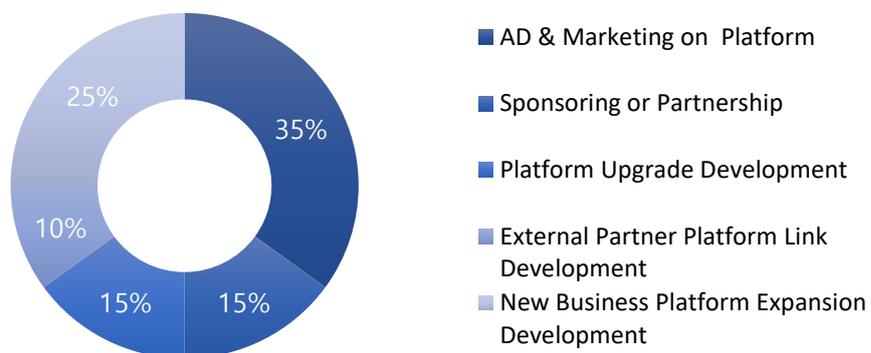
- 35% will be spent on marketing such as media AD

- 15% will be spent on sponsoring and marketing events

- 15% will be spent on development of platform upgrade

- 10% will be spent on development of with external partner platforms

- 25% will be spent on new business expansion such as data provider and media

- 15% will be spent on sponsoring and marketing events

7   Roadmap

GDC will continue its legacy, and will further grow and expand the business and token ecosystem with the aim of increasing the service coverage and usability through the direct development and alliance.

Year	Milestones
Previous	· Successfully completed sales in July, 2018 · Rankingball MLB, NHL, NFL, NBA, LOL, CSGO, Europe Soccer Leagues Launch · Rankingball.com Rankingball.net GoRankingball.com Launch · App services on Googly Play & App Store Launch · Listed on Coinbene.com and CMC
19Q4	· List GDC on KyberNetwork · GAME: RANKINGBALL NFL, NHL, NBA New Game Modes Launch
20Q1	· Apply GDC on KEEN Wallet · ArenaCast Beta · Listed on Bithumb Global
20Q2	· Apply GDC on games and gaming platforms · Upgrade Rankingball Platform with Streaming Service
20Q3	· ArenaCast Official · Celebeco Beta Launch · Partnerships with eSports/Sports for streaming · GST stable coin platform beta
20Q4	· Partnership with media · Improve ArenaCast · Extend partnerships with Digital Commerce

8   Team

8.1   Core Team

Darren Kim ([Linkedin](#))

- Co-Founder and CEO of ArenaCast, Inc.

- M.S. in Management from Stanford University's Graduate School of Business

- M.S. in Electronics from Yonsei University, Seoul

- Blockchain and AI Evangelist, Crypto Economy Expert

Darren, a serial entrepreneur and a blockchain evangelist, is an insightful first mover with strong determination and intuition proven from the outstanding accomplishments and robust execution which he has shown engaging in IT and mobile service industry for the last 20 years. In 2002, he founded Key2Net Solution Inc., a mobile payment (FinTech) company in South Korea, which created global first mobile gift certificate and went on to generate over USD200 million in annual revenue before its sale in 2008 and IPO in 2009. Prior to Key2Net, Darren worked as a system s/w engineer at LG Electronics in Seoul, South Korea. After graduating from business school in 2010, he founded Friize Networks Inc. in Silicon Valley, a company specialized in developing an AR-based social game like "Pokémon Go", years before the megahit game hit the market.

Charles Chang ([Linkedin](#))

- Co-Founder and CTO of ArenaCast, Inc

- M.S. in Electronics from Yonsei University, Seoul.

- Blockchain Evangelist and Crypto Economy Expert

Charles is a visionary and a strategist in gaming and blockchains. He brings vast field of knowledge and experience to spearhead the product design of RankingBall. He was a founding member of Key2Net Solution Inc., which had a successful exit in 2008. He brings 20+ years of experience in gaming and IT industry, by being a round table member at Sony's gaming division, a researcher at Korea Telecom, and a regional representative of Executive Voice. He has shaped different businesses soar to success with his specialty in game architecture, product design, and game publishing. Born in Japan and was educated globally, he now navigates through the multiregional challenges.

Wibe Wagmans ([Linkedin](#))

- CMO and A member of the board of director of ArenaCast Inc.
- MSc. the Netherlands and participate in MBA programs at universities in Stockholm & Tokyo
- Pioneer in Mobile; Blockchain and AI Evangelist

Wibe has a long experience in product and marketing in the mobile and gaming industries, and has been responsible for two dozen no. 1 ranked games on iTunes. He was the Chairman of the Board of Directors of Huuuge Games, one of the most promising social casino game companies, until he founded an AI startup in stealth where he's currently the CEO. Previously, he was the president and CEO at IndoorAtlas Inc., SVP at Rovio, and Regional Board member at Nokia. He built brands like Angry Birds, Bing, Nokia, and Gillette and drove revenues of USD1 billion.

Min Lee
Blockchain Technology Expert
Leader of Dev Team

Bryan Kim
Blockchain Technology Expert
Leader of Backend Dev

James Cho
Leader of Art Design

Kurt Jeon
Blockchain Technology Expert
Leader of Frontend Dev

Oscar Hong
Blockchain Technology Expert

Kei Choi
Leader of Game Design

Vincent Ahn

Backend Developer

Moon Kim

Mobile Developer

Camden Bernhardt

Leader of Digital Marketing

8.2   Board & Advisors

Ken Hershman ([Linkedin](#))

Advisory for Sports/Esports Gaming

- Chief Executive Officer at WESA Agency
- Fordham University School of Law, J.D Law
- George Washington University, BS, Political Science

Widely known in the television sports world for his 27+ year career helping build and innovate sports television programming for both HBO and Showtime, Ken has most recently been appointed Executive Chairman & Commissioner of the World Esports Association (WESA). Prior to that, Ken successfully entered the entrepreneurial world through the launch of Crossing Way Advisors, a multi-faceted advisory company geared towards helping early and mid-stage companies achieve success. As President, HBO Sports, for HBO, Ken was responsible for the strategic direction and overseeing of the HBO Sports division. This included the renowned boxing franchises World Championship Boxing®, Boxing After Dark® and HBO-Pay-Per-View®, as well as compelling programs like the Emmy®-winning journalism series Real Sports with Bryant Gumbel. He was named to this position in January 2012. Regarded in the sports television community as a proven innovator, Ken came to HBO from Showtime, where he was executive vice president & general manager, Sports & Event Programming, since October 2003.

John Mackewich ([Linkedin](#))

Advisory for Legal and Compliance

- Corporate and Employment Lawyer at Dinsmore & Shohl LL
- University of Toledo, JD
- Wayne State University, Finance

John is a lawyer representing startup and emerging companies. He specializes in mergers and acquisitions, corporate reorganizations, joint ventures, franchising and drafting commercial agreements for clients in the United States and internationally. He has worked extensively on public company securities compliance and is also overseeing compliance for RankingBall.

Folkert Graafsma ([Linkedin](#))

Advisory for Legal and Compliance

- Partner International Trade at VVGB
- Stanford University Graduate School of Business
- Stanford University Law School

Folkert is a senior legal professional with management skills and extensive experience. He specializes International Law, EC Law, Trade Law (e.g. Anti-Dumping), Customs Law, WTO Law, Corporate Governance & Fraud, Capital Markets, White Collar Crime, Evidence. Accounting-, audit-, management-, computer- and language-skills. As a Partner at VVGB, he is working in multiple countries directing on-site investigations, audits, due diligence, and compliance proceedings.

Sean Ryu ([Linkedin](#))

Advisory for Blockchain Technology and Crypto Economy

- Managing Director at Willow Venture Partners
- Venture Partner at Nautilus Venture Partners
- Yonsei University

Sean is a venture investment expert with hands on experience in high growth mobile, Internet and media industry. He is the Managing Director at Willow Venture Partners, a Silicon Valley based micro fund investing in high growth technology sectors in APAC. He's acting as a catalyst to facilitate international entrepreneurs create value and capital formation. He served as Vice President of SKTelecom Americas, building technology and business partnership with start-ups, major carriers, college labs and research centers in the US, to develop collaborative business opportunities in Korean market. With more than 15 years of experience, he specializes in venture investment, technology partnership, and market strategy/market entry.

Kris (Gyeongjin) Ghil ([Linkedin](#))

Advisory for Crypto Economy

- MD at Pi Capital International LLC.

- Committee member of KOSPI Market committee

- Co-Chairman at IIPCC Korea

- SEIT Program, Stanford University

Kris has been working for an American investment advisory company as a country manager for several years. Prior to the investment advisor, he was a representative fund manager of Sovik Global Contents fund and CEO of Chorokbaem Media which produced mega-hit soap operas such as Jumong, Iljimae, Chuno and High-kick. He worked for a global business management consulting firm as a senior consultant and Korean government such as Ministry of Economy & Finance and National Tax Administration as a deputy director.

Michael Cho ([Facebook](#))

Advisory for Finance and Crypto Economy

- Partner at Samjong KPMG Financial Advisory Services
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Michael is currently heading the strategic marketing initiative for all of the Samjong KPMG Financial Advisory Services, with over 15 years of experience in M&A engagements. He served as the Head of the Corporate Finance division of Samjong KPMG FAS Inc. from 2001-2005 and headed a wide range of engagements such as M&A advisory, financing, valuation, deal structuring, etc. During his leadership, the division was ranked the no. 1 M&A house in terms of number of deals in 2004, during which time 9 high profile deals were closed by his team.

Appendix I (Shared from GST/BST Whitepaper)

I-1. Dai vs. GST

Stablecoin GST is based on MakerDAO's open source, and there are many similarities but also many differences. As shown in detail in Table I below, the biggest difference between Dai and GST is that Dai uses Ethereum Blockchain but GST is the first Stablecoin implemented in Ethereum Plasma.   Thus, there are advantages such as low commission fee with high scalability and when expanding the chain, it is free from the consensus structure.

[Ethereum vs Plasma]
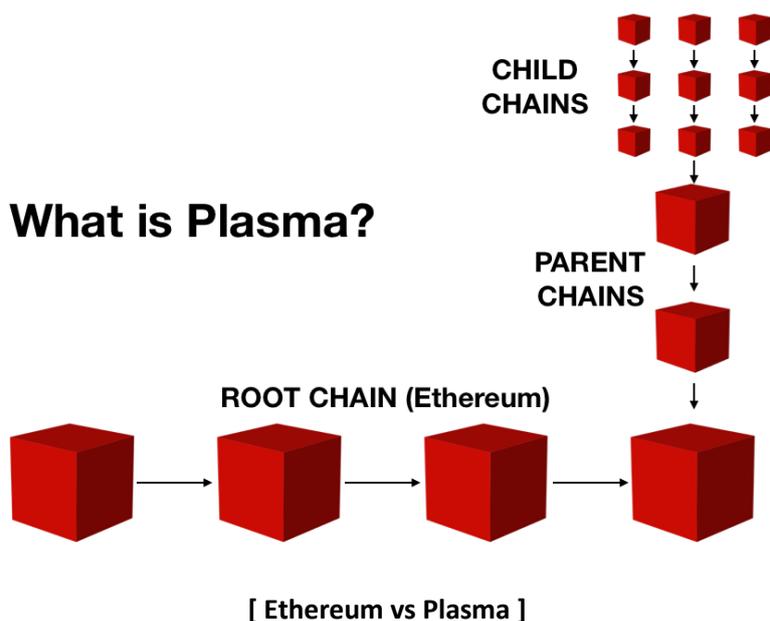
Dai can be said to be completely decentralized on a system basis, but from a political point of view, it is hard to say that it is completely decentralized, given the influence of the minority group is still large. On the other hand, GST adopted a centralized method at the beginning of the project, and as the business gradually enters a stable period, it seeks to be decentralized. CDP-related indicators show that GST is much more user-friendly compared to Dai. In order to increase the base of GST users in the early stage of the project, all indicators, including collateral rate, liquidation fee, and forced liquidation penalty, were intentionally set user friendly, which will be catalyst for the influx of many existing Dai users into GST.

Table I. Dai – GST Comparison **Table I. Dai – GST Comparison** (* as of June 2019)

	Dai	GST	Remarks
Protocol	Root Chain (Ethereum)	Plasma Contract	
Governance Token	MKR	BST	Fees, voting, etc
Price	1Dai = 1USD	1GST = 1USD	
DAO	Decentralized	Decentralized	Will convert into DAO
Tx Fee	High	Low / No Fee	Plasma sidechain
DTC Ratio	300-400%*	120%	Expected
Stability Fee	19.5%*	1-2%	Expected
Liquidation Penalty	13%*	5%	Expected
% ETH(GDC) Locked	1.7%*	30-40%	Expected

I-2. CDP Metrics

Collateral Rate

Collateral-To-Debt (CTD) Ratio: 120%

One of the most important factors when depositing cryptocurrency and borrowing Stablecoin is the CTD Ratio. In other words, it is the ratio of how much the minimum margin should be deposited compared to Stablecoin received as a loan, and its formula is to divide the deposit into loan.

$$Collateral\ to\ Debt\ Ratio = \frac{\text{Collateralized GDC or } ETH}{\text{Created GST}}$$

For example, if Andrew deposited GDC/ETH of the amount of USD200 and borrowed GST of the amount of USD100, the CTD ratio is 200%. Similarly, there is LTV(Loan-to-Value) Ratio used by banks, which represents the ratio of available loans compared to assets deposited as collateral.

$$Loan\ to\ Value\ Ratio = \frac{\text{Mortgage Amount}}{\text{Appraised Property Value}}$$

The lower the CTD, the more a borrower will be able to receive loans, which will increase the number of users, and on the contrary, the higher the CTD, the lower the number of users will be. On the other hand, if the CTD is too low, the risk of forced liquidation is high, whereas if the CTD is too high, the risk of forced liquidation is

low, but the loan is far from enough, so it's important to maintain a proper CTD ratio.

Liquidation Fee

Stability Fee: 1-2%

The process of depositing GDC to CDP and creating Stablecoin GST, then later putting GST to CDP and taking back GDC held as collateral is called liquidation. In this liquidation process, the liquidation fee is incurred and the CDP borrower must purchase BST and pay a fixed sum of money compared to margin to take deposited GDC back. To secure the users, the liquidation fee will maintain at approximately 1-2% in the early stage of the business, and will gradually increase as the business stabilizes.

Forced Liquidation Penalty

Liquidation Penalty: 5%

The prices of GDC/ETH deposited as collateral are variable, and if they fall below the CTD ratio, CDP automatically sells GDC deposited by the user to the market immediately to minimize the risk, and this is called forced liquidation. At this moment, the CDP borrower must pay an additional forced liquidation penalty besides the liquidation fee in order to take the asset GDC back which was deposited as collateral. For example, if Drew set the CTD ratio of 150%, and the price of GDC deposited as collateral falls below the price of borrowed GST, CDP immediately sells GDC to the market to minimize the risk. The forced liquidation penalty will be kept below 5% in order to expand the base of CDP borrowers in the early stage of the business.

Locked GDC Ratio

Locked GDC/ETH Ratio: 30-40%

Multi-Collateral by GDC and ETH for GST will be initiated. The locked GDC/ETH ratio is an indicator of how much GDC is deposited on CDP compared to the total number of GDC issued.

$$Locked\ RBG\ Ratio = \frac{Total\ Locked\ GDC/ETH\ on\ CDP}{Max\ Supply\ of\ GDC}$$

The higher the GDC ratio deposited on CDP, the smaller the number of GDC circulated in the market, and the price of GDC rises with the principle similar to Quantity Theory of Money of economics. In conclusion, the higher the number of use cases of GST, the Stablecoin, the higher the demand and value of BST together, which means that there are many locked GDC, forming a Vicious Circle in which the price of GDC also rises.

Table II. CDP Metrics

	CDP Ratio			
CDP Ratio	120%	135%	150%	Minimum CDP Ratio
Liquidation Fee	1-2%	3-4%	5%	Imposed upon liquidation
Forced Liquidation Penalty	5%	7%	10%	Imposed upon forced liquidation
Locked GDC Ratio	30-40%	20-30%	10-20%	

I-3. GST Token Economy

GDC

Symbol: GDC

Max Supply: 4,765,815,836

Protocol: ERC-20

GDC, an ERC-20 token, was listed in CoinBene and Kyber Network. Since the launch of GST, the company aims to forecast 30-40% of GDC for CDP and expects prices to rise steadily due to a reduction in the supply of GDC.

GST

Symbol: GST

Max Supply: Depends on 'Debt Ceiling' (i.e. 50M or 100M in case of Dai)[5]

Protocol: ERC-20

GST/USD: 1 (Target Price)

Market Cap: n/a

The target price of GST, a stablecoin that operates on the Ethereum side chain, is 1USD. The total volume of publication, like Dai, is Debt Ceiling, with a primary target of USD5 million and a secondary target of USD10 million if achieved. One of the most important principles is that the total amount of GST issued must be less than the total amount of GDC deposited. The reason is that GST was created and distributed on the market using the deposited GDC as collateral. If the total amount of GST in circulation is larger than the GDC deposits, the community's credibility will not only be lost, but will also face legal punishment, as the Tether case in the past.

BST

Symbol: BST

Max Supply: 100,000,000

Protocol: ERC-20

BST/USD: listing on exchanges soon

Market Cap: n/a

BST, the GST's governance token, has a total of 100 million issues and is not listed on the exchange, so the price is not yet known. The higher the demand for GST, the higher the demand for BST, while BST holders are involved in voting important CDP indicators related to GST's policies, they are symbiotic with each other. The downside

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[5] Debt Ceiling: This refers to limiting the total amount of GST loans for risk management purposes. Under RGB single collateral, the first ceiling will be USD5 million and when it is reached, the second ceiling will be USD10 million. Other upper limits will be applied if a multi-mortgage system is introduced in the future.

is the risk that if when a few BST holders secure a large amount, the vote or policy against the public opinion may be adopted, and that a large number of BST holders may vote against the public interest through group selfishness. However, in the early stage of the business, various CDP-related indicators will be hard-coded in the form of BST without right to vote, and in the future, the voting system will be introduced to transform itself into an autonomous organization, DAO.[6]

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[6] Decentralized Autonomous Organization (https://blockchainhub.net/dao-decentralized-autonomous-organization/)

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