BTS Project

[Blockchain-based Game & Wallet Platform]

BTS Project is a new concept next-generation Blockchain Music Contents Service, BATTLE SINGER Game, and It consists of a cryptocurrency remittance function and BTS Mobile Wallet Platform, a cryptocurrency wallet service that allows QR payment in online/offline stores. Through the blockchain-based BATTLE SINGER, you can enjoy 1:1 battle games and karaoke services at the same time, and you can easily purchase various game items with BTS tokens.

ABSTRACT

For the last few years, blockchain technology has played an important role for almost every industry imaginable and has acted as a bandage to heal almost any wound. One industry that has deep, and sometimes controversial problems is the music industry. Although technology has made it much easier for music listeners to enjoy music, the industry itself still lags behind the rest of the world.

This lack of development in the music industry may be related to its decline over the past 20 years, while over the past 3 years, the industry has showed some development. Live music ticket sales were approximately 7.2 billion dollars in 2015 and are estimated to rise to 9.1 billion dollars in 2021. The industry also achieved tremendous revenue growth of 8.1% worldwide in 2017.

As more money comes in, the music industry must adapt to new technologies and ensure that such declines don't repeat. It is also becoming more important to check that people in the industry are paid fairly. We think that blockchain technology is the best way for it.

To prevent the further spread of Novel Coronavirus (COVID-19) that has caused a global pandemic, measures to suspend or restrict the business of pubs, karaoke bars, night clubs, etc. have been implemented. This made it difficult for the people to sing at facilities such as pubs and karaoke bars, and due to such social influence, the number of people who use karaoke service through mobile apps have increased significantly.

A person in charge of the "Juks", which is operated in Tencent, said that in recent interviews, the users of Karaoke feature of Juks was soared 50% during the COVID-19 situation, and experts analyze that this is the evidence of a change in consumption of music and entertainment due to COVID-19. And the person said, "young people with knowledge of technology (Juks' karaoke service) are major users, but various groups of people are trying to use this service".

BTS Project consists of Battle Singer Game, which is a new concept and next generation blockchain music contents service, and BTS Mobile Wallet Platform, which is cryptocurrency wallet service with cryptocurrency remittance and QR payment functions in on-line/off-line stores. Users can enjoy a block chain-based battle (contest) game and karaoke service and can easily receive rewards for game victory and purchase various game items with BTS tokens. This is a Music Contents Service + Mobile Wallet + Blockchain Based NFT service, where the original source of a popular participant is commercialized, and the participant can directly generate and sell NFT.

It is a service that allows people to interestingly use blockchain-based apps without knowledge of blockchain, digital assets, and cryptocurrency. A person sings a song becomes a content provider and a person listening to the song acts as a contributor, so it can create a virtuous cycle. This is a system maintained by giving participants rewards with BTS token already designed in the ecosystem.

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PART 1.0 MARKET STATUS

Global Karaoke Market Analysis

Forecast of the global karaoke machine market for the next 5 years

(Unit: 100 million dollars)

40 → 50

CAGR grew by 4.3%

2019Y   2024Y

[Korea's music content exports soared thanks to the K-pop]

(Unit: ten thousand dollars)

19,611 23,510 27,733 33,565 38,102 45,232

1   2   3   4   5   6
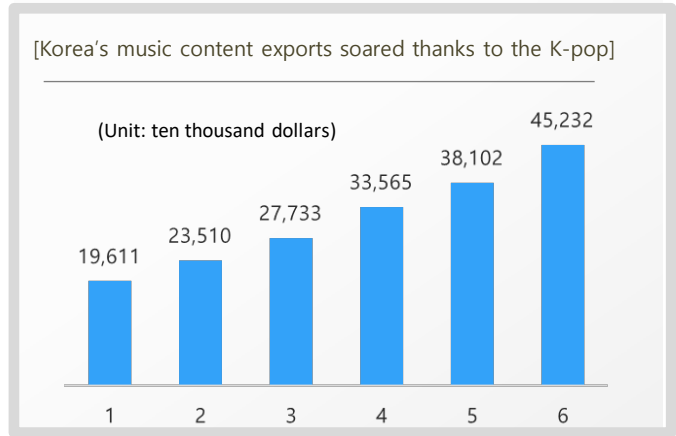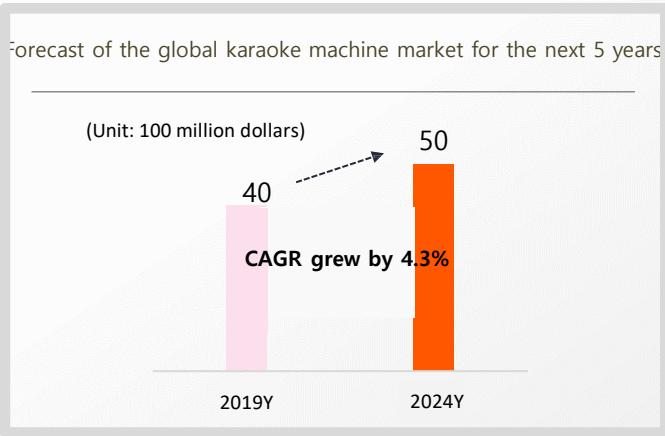
(Source: 1 Global Karaoke Machines Market 2019 by Manufacturer, Region,
Type and Application, Forecast to 2024, 2 United Nations)

- According to Global Info Research, the global karaoke machine market is estimated to grow at an annual average of about 4.3% for the next five years and is expected to reach $ 4 billion in 2019 to $ 5 billion in 2024.

- The home karaoke market has grown as the main market in Japan and Korea in its initial stage, but it is rapidly expanding mainly in developing countries such as Southeast Asia , Brazil, and Russia.

- When users can conveniently access the K-POP singing battle around the world and the service is supplied at a cheap price that is not burdensome, the karaoke market in developing countries will be able to rapidly expand the market share in the short term.

- The domestic karaoke market has been in decline for 10 years due to the diversification of play culture and the increase of one person household.

- Unlike the MIDI accompaniment sound source used in Korea, the PCM accompaniment sound source used in foreign countries does not contain accurate sheet music information, so it is not possible to accurately compare the user's singing and accompaniment. For this reason, foreign karaoke services do not provide advanced services, but only provide simple accompaniment and inaccurate scoring functions, so the overseas market is determined only by price competition.

- As the global smartphone culture spreads, new karaoke apps are being released, and various new concepts of services and contents are being added.

PART 1.0 MARKET STATUS

Crisis of Off-line Content Industry

Various performances such as play, music, and dance have been canceled or postponed due to the prolonged COVID-19 situation. According to the survey results of the Federation of Artistic & Culture Organization of Korea, Field artistic events canceled or delayed from January to April this year was about 2500 and the cost of damage was about 60 billion won. And the income of 9 out of 10 artists decreased compared to that of the previous year. Of course, the popular music industry is also being damaged, and especially live music performances have been greatly contracted. Small and medium-sized music labels that lack cash flow are suffering even more. This is because most musicians depend on small-scale performances rather than music sales. According to the Korea Music Label Industry Association, from February to April 17th, as many as about 80 musical performances in small theaters near Hongik University in Seoul were canceled or delayed, and it was found that approximately 800 million won of damage occurred. As for the whole popular music, about 200 performances were delayed or canceled nationwide during this period. Therefore, the performance industry is responding with 'online performances without audience' by filming performances without audience or broadcast it live on YouTube ?FT289}. However, these are also mainly performed in large national and public theaters such as the Sejong Center for the Performing Arts and Gyeonggi Art Center. Filming and editing need a lot of money and it is difficult for small production companies to jump into online performances in a situation where there are difficulties to earn profits.

Opportunities for the On-line Content Industry: Game, OTT, Webtoon

While the performance industry experiences difficulties, the industries such as games, OTT(online-based videos) and webtoons distributed and consumed non-face-to-face way are booming during COVID-19 situation. In particular, on-line games were regarded as 'harmful thing' and even classified as a disease by WHO, but in the era of COVID-19, social distancing has been enforced, so the game industry is popular as a content that helps leisure life. During COVID-19 situation, the number of people who enjoy games has increased significantly. In a recent survey about unmarried men and women by a marriage information company, 18.1% of the people answered, "During COVID-19 situation, I spend time at home playing games". Especially the answer from the men that they spend time playing games took the first place(25.5%).

As Jane McGonigal mentioned Herodotus's "History' in her book "Everyone Plays a Game", she talked about 'overcoming crisis through play' of the Lydians in the ancient times. It is said that around the 12th century B.C., ancient Lydians suffered a severe famine, but they immersed themselves in play to such an extent that they forgot their appetite, hunger and confusion for a long time, so they wisely overcame the period. Human beings have been using 'play' as a means of overcoming the difficulties of reality for a very long time. It is similar thing that people lose their mind for various digital games during COVID-19 situation. In an era when offline activities are difficult due to COVID-19, people are looking for alternatives to leisure life in the digital games. Especially, online digital games are even solving the problem of relationships with people. There is an analysis about the reason why Nintendo Switch games are gaining so much popularity recently is that these games digitally reproduce the life of people before COVID19 situation. In addition, on-line video/music streaming service industries has been growing very fast during COVID 19 situation.

PART 1.0 MARKET STATUS

Threats to Production and Survival

As we have seen before, in terms of 'consumption' of content, there are differences in each field before and after the COVID-19 situation, while in terms of 'production' of content, people are commonly experiencing a hard time. People in each field have to gather off-line anyway to make contents, but it is difficult to meet people because of COVID-19. Actually, there are many cases where production is canceled or postponed in the fields of not only movie and performance but also music (sound source) and broadcast contents that are mainly distributed online. In the popular music industry, the release of their digital music by singers is being delayed one after another. This is because distribution and consumption of digital music is done on-line, while various activities to promote digital music need to be done off-line. Singers are reducing the range of their activities, changing their comeback showcase to performances without audience and delaying events such as fan meetings. And the production of various broadcast programs is canceled on after the other. In particular, music broadcasts and comedy show programs with large audiences are either switched to video recording without audiences or postponed indefinitely. Even in the case of general programs, during filming or producing, it is needed to pay special attention to the safety of the crew and performers and closely monitoring the situation. The problem is more serious for programs that must be filmed overseas due to the nature of the content. Overseas real variety shows as well as overseas travel programs and documentary are in crisis. The reduction in production of these programs threatens the survival of workers in related industries. Most of the workers in the content industry except for a few fields fall under special employment such as freelancers and they get paid depending on individual projects after singing a contract. So, if a project is canceled, they will be actually under the situation of unemployment. In the case of the broadcasting industry, as program production is stopped one after another, it is continuously affecting outsourced production companies, independent PDs, and creators such as broadcast writers. We can hear that there are cases of people returning from the airport after being banned from entering the country, even after the broadcast schedule is confirmed and the filming schedule is arranged with the local coordinator. The Government said it would spend a total of 1.55 billion won for the 930 thousand people of special employment workers, freelancers, and self-employed small business owners who suffered difficulties from COVID-19 situation, on April 22. And the government also released additional support to pay for 500,000 won per person up to for 3 months but it seems that is not sufficient to fundamentally solve the problem.

Content Industry after COVID-19

Now each of us is calmly accepting that "the world before COVID-19 cannot come back again". Blocking and preventing the risk of infectious diseases has become our daily life. The content industries are seeking new changes in preparation for the prolonged COVID-19 situation. Among them, the performing arts industry and artists showed the fastest response. From the beginning of COVID-19 situation many performances have been converted to on-line performances, giving hope to many people by experimenting the possibility of non-face-to-face performances. In the content industry, on-line integration has become a necessity, not an option. The content industry based on off-line is creating a new business model by combining it with on-line services such as YouTube. The existing online-based industries are also implementing offline experiences in the digital space based on next-generation technologies such as 5G and virtual reality(VR). The key will be how fun and rich experiences can be delivered to users in non-face-to-face situations.

PART 1.0 MARKET STATUS

Popular Marketing during COVID-19 Situation… "Overcame the limitation of Non-face-to-face through Experience, Participation, and Fun' "

There is an analysis that the marketing strategy making use of experience, participation and fun was successful even during the COVID-19 situation. According to 'Mezzomedia', a digital marketing solution company, a subsidiary of CJ ENM, on the 12th of this month, △ digital hybrid, △ non-face-to-face insight, △ interactive marketing, △ branded content, △ viewer engagement marketing, △ deepfake, △ data driven marketing and △ creative OHH (outdoor advertising) campaigns were selected as the eight keywords of the 'global best campaign' that captured consumers during the COVID-19 pandemic.

A campaign, which provides customers with special experiences and values, or induces participation by combining online and offline and using interesting content techniques, drew people's attention.
(*Digital hybrid means a campaign that provides a greater sense of immersion by combining digital and physical experiences)

It is a good example that "Find Hidden Pop-up Store" event for which the US telecommunications operator T-Mobile and China's cell phone operator ONEPLUS cooperate with each other. They set up pop-up stores in three regions in the United States and proceeded on the "Location Finding Game" event ahead of the launch of a new 5G-only cell phone. Consumers identified photos and clues provided by the official Twitter and submitted their own location inference to participate in the event.

Consumers learned how wide the 5G network range of T-Mobile is through the event and ONEPLUS's new product performance was also confirmed, so it was said that it achieved a successful message delivery. The cases are also continuously increasing, where people find an insight in the non-face-to-face situation and perform an effective brand promotion through a three-dimensional thinking.

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PART 1.0 MARKET STATUS

Global Competitor Analysis

Company name	Yokee	Starmaker Interactive Inc.	Smule	Tecent Music Entertainment	Entermedia	2beOne Solutions
Service name	Yokee Karaoke	StarMaker	Smule	WeSing	MagicSing Ahssa karaoke	BattleSinger
Number of users	**70 million people**	**130 million people**	**150 million people**	**140 million people**	**7 million people**	**(Target) 100 million people**
Main function	• Worldwide language changeable • Record: Adding vocal effect function after voice recording • Video sharing function	• Vocal effect • Recording: Can select the desired section • Duet recording function • Sharing taste, comment and message function	• Vocal effect • Real-time pitch check • Video recording function • Video filter function • Video sharing function	• Vocal effect • Recording: Can select the desired section • Duet recording available • Sharing taste, comment message • Offline mode • Song recommendation • Video sharing function	• Support of 200,000 songs worldwide • Based on MIDI sound source • Instrument volume, music control • Viewing sheet music • Drum game support	• The world's only singing battle game • Support for songs from 5 countries other than Korean songs • 1:1 Battle (Betting) • Ranking League • Match tournaments • Singing content trading
Subscription fee	• 1 week: $2.99 • 1 month: $7.99	• 1 week: $6.99 • 1 month: $16.99 • 3 months: $39.99	• 1 month: $8 • 12 months: $40	• 1 month: $8 • 12 months: $40	• 1 month: $10 • 3 months: $20 • 6 months: $30 • 12 months: $40	• Basic practice free (excess charge) • Game items paid • Vocal effect paid
Supported OS	• Android • iOS	• Android • iOS	• Android • iOS	• Android • iOS	• Android • iOS	• Android • iOS • Web for PC (scheduled)

Secure of global status of BATTLE SINGER service model

• Concluded a joint business contract with AH Electronic , a Brazilian karaoke copyright holder

• 100% market share in Brazil

• Concluded a sound source supply contract with KY Media, which possesses the highest quality karaoke sound source in Korea

• Supply of video karaoke system and joint project in progress

• Concluded an MOU with M.Video, a Russian karaoke copyright holder, and is promoting a joint project

• 100% market share in Russia

• Establishment of a local corporation in Thailand and secure of copyright

• Doing joint business with convenience store cash refilling operators

• Linkage of ecosystem by cooperating with Big Tech company of Thailand

• Concluded an MOU with JoySound, Japan's largest karaoke company, and is promoting joint project for app service

• Making ecosystem by cooperating with Japanese Big Tech company

• Concluded a karaoke system supply contract with Vismay, the largest karaoke company in the Philippines

• Karaoke app service joint project in progress

PART 2.0
BUSINESS INFO.

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2.1 BTS Project Overview

BTS Project consists of Battle Singer Game, which is a new concept and next generation blockchain music contents service, and BTS Mobile Wallet Platform, which is cryptocurrency wallet service with cryptocurrency remittance and QR payment functions in on-line/off-line stores. Users can enjoy a block chain-based battle (contest) game and karaoke service and can easily receive rewards for game victory and purchase various game items with BTS tokens. This is a Music Contents Service + Mobile Wallet + Blockchain Based NFT service, where the original source of a popular participant is commercialized, and the participant can directly generate and sell NFT.

BTS Project will provide, as mentioned above, blockchain technology with excellent security and stability to expand Korea's music content service to the world. It will issue NFTs related to popular music content, video content, sheet music content, etc. and the issued NFTs will be traded using BTS tokens.

Music
Content
Service
(Karaoke+Game)

Cryptocurrency
Wallet Service
(BTS Mobile Platform)

Blockchain
(Token / NFT)
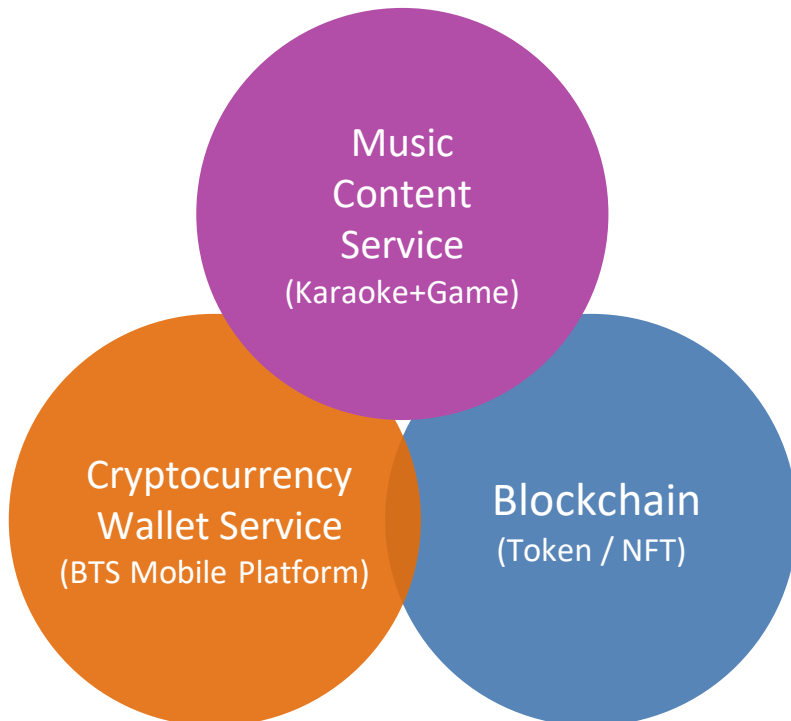
PART 2.0 BUSINESS INFO.

2.2 BATTLE SINGER Introduction

BATTLE SINGER is a blockchain music contents service that combines the existing mobile karaoke service with mobile games. BATTLE SINGER service which combines the simple existing karaoke music service with mobile games is arousing active participation and response from the younger generation and enthusiasts. Blockchain ERC-20-based Users can conveniently buy items and products required for BATTLE SINGER using BTS token which is issued based on blockchain ERC-20.

BATTLE SINGER participants can create their own songs and battle videos as content, and the created content is evaluated based on the popularity of other participants and can be resold within the app. The content evaluated as a highlight in the game or winning a singing competition league is generated as NFT token and then can be traded with its value increased greatly.

[BATTLE SINGER Game]

NFT Blockchain Based Game
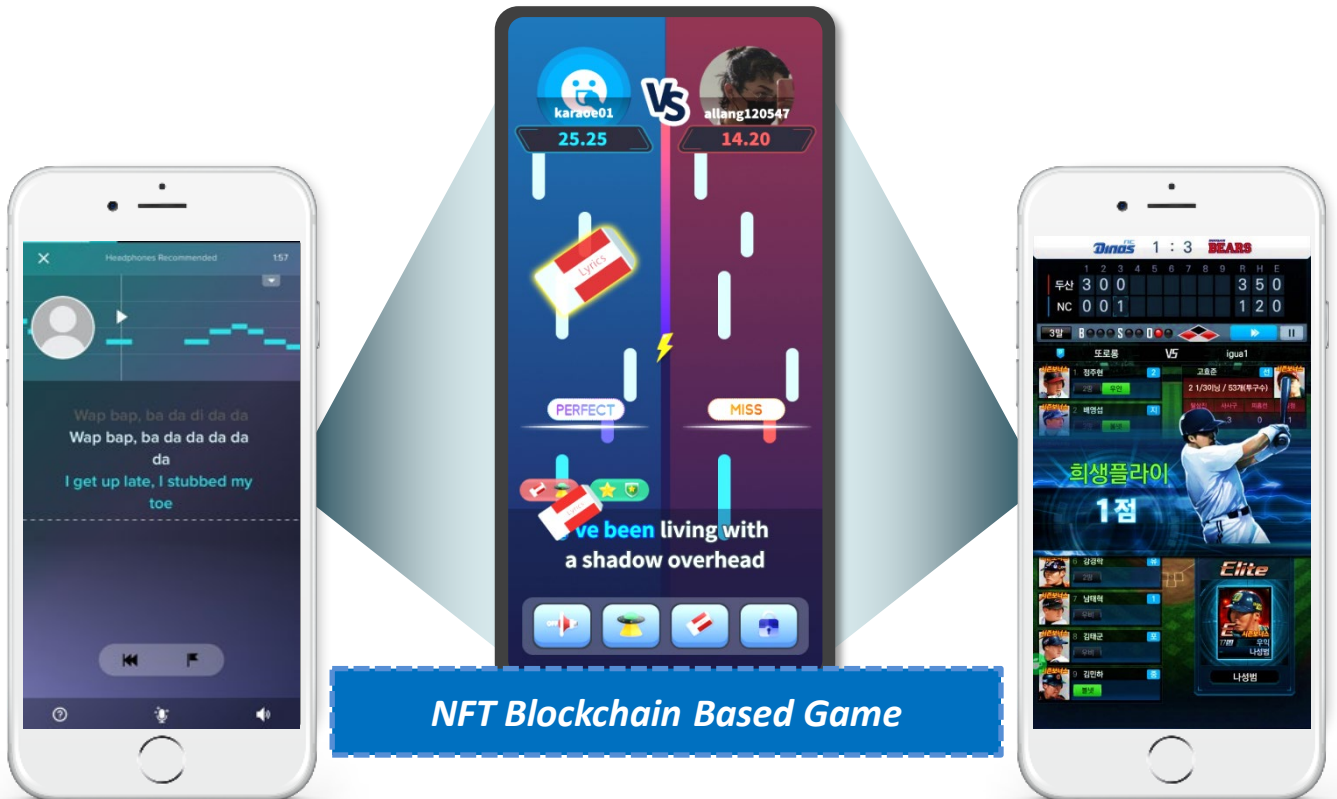
PART 2.0 BUSINESS INFO.

2.3 BATTLE SINGER Ecosystem

I.   Battle Singer has a variety of ways such as singing and competing in 1: 1 battle game and ranking play game where users can earn prize money and winning products.

II. BATTLE SINGER provides BTS tokens and various paid items as a reward to tournament winners and top ranked players.

III. Various contents such as sound source contents and video contents created in the proc ess of playing the game are generated and commercialized in the game, and their valu e is evaluated through popularity voting among members, and it is possible to trade co ntents between members.

IV. The high-quality highlight contents generated by the top ranked players are selected a nd generated to the NFTs based on blockchain ERC-721. It is possible to trade not only in the Battle Singer app but also in the Global NFT Marketplace.

[BATTLE SINGER Ecosystem]

Battle Sin
- 1:1 match
- Ranking league
- Match tournament

Play

Win

Prize/C
- Battle coin
- Ranked product
- Winning product

High value-added production through game

Valu
- Highlight content
- product's value
- NFT distribution

Trade

Discover

Conte
- Video/recorded
- Challenge recorded
- Battle result recorded

PART 2.0 BUSINESS INFO.

2.4 BTS Mobile Wallet Platform

[BTS Wallet]

Wallet function

Offline store payment

Online shopping mall payment

- BTS Wallet is a mobile platform that stores cryptocurrencies such as BTS Token and supports mobile payments.

- Through blockchain security system with proven safety, it can safely store cryptocurrencies and support wallet functions that can withdraw and remit BTS tokens.

- It is possible to make real-time payment through the smart QR created by BTS Wallet in offline stores and online shopping malls.

- Users can enjoy various events such as Air-Drop, and it is possible to store and manage cryptocurrency received in the event.

- We are going to support currency exchange function between different cryptocurrencies and withdrawal function of fiat currency in the future .

PART 2.0 BUSINESS INFO.

2.5. BTS PROJECT Core Revenue Model

BTS Project will create stable growth and continuous revenue through a variety of revenue models such as Battle Singer games, BTS Wallet Operations, and NFT Market Place. Through this, we will further expand and activate the BTS Token ecosystem to realize the revenue increase of BTS Token Holder (investors).

✓ Core Revenue Model

01. BATTLE SINGER Betting Fee
- Platform fee for betting when participating 1:1 match / tournament battles

02. BATTLE SINGER League Match Participation Fee
- Basic participation fee when participating in tournament league and ranking League,

03. BATTLE SINGER Game Items Sales
- Sales of various paid game items that are useful during battle games

04. BTS Token Transaction Fee
- Platform fee generated when purchasing partner products with BTS Token acquired in BATTLE SINGER

05. BATTLE SINGER Content Transaction Fee
- Platform fee for trading highlight content and winning prizes of famous participants

06. BTS Wallet Operating Fee
- On-line/Off-line member stores' payment fees and withdrawal fees, etc. through BTS Wallet
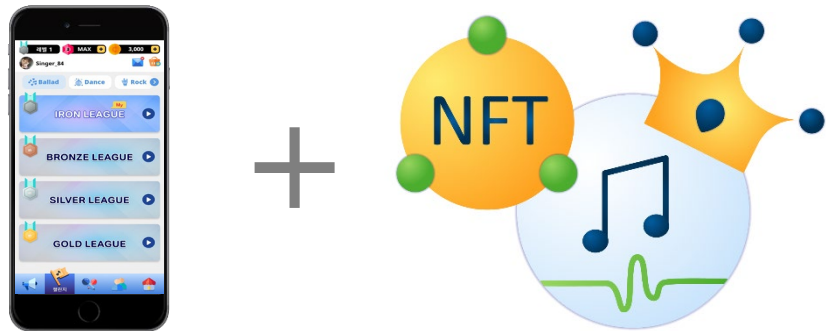
07. NFT Transaction Fee (Second advanced development)
- Platform fee that occurs when trading NFT works issued with highlights content. ※ NFT direct trading marketplace formation among members
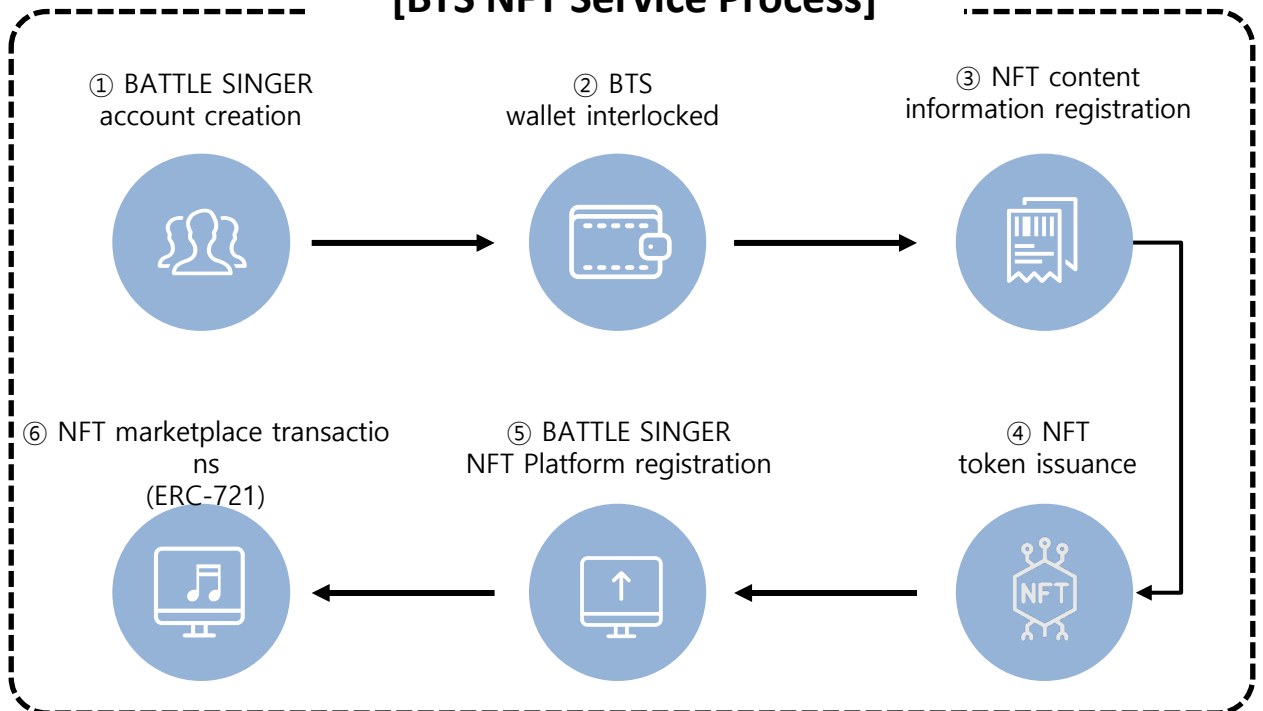
PART 2.0 BUSINESS INFO.

2.6 NFT Marketplace Development Goals

 BTS Project is going to launch a NFT marketplace by interlocking BATTLE SINGER game and BTS Wallet through the second advanced development. Users can register their copyright information about the content and issue NFT tokens when selected for BATTLE SINGER's highlight content. The created NFTs can be freely traded by connecting seller and buyer in the BATTLE SINGER NFT Platform (Marketplace), where users can make a payment using BTS Token as a key currency. We will improve the value of contents created in BATTLE SINGER and further expand BTS Token Economy through this.

[BTS NFT Service Process]

① BATTLE SINGER
account creation

② BTS
wallet interlocked

③ NFT content
information registration

⑥ NFT marketplace transactions
(ERC-721)

⑤ BATTLE SINGER
NFT Platform registration

④ NFT
token issuance

PART 2.0 BUSINESS INFO.

2.7 BTS Token Economy

① Users subscribe to BTS Wallet PLATFORM.

② Users are given BTS Wallet accounts.

③ Users can use BTS token to enjoy BATTLE SINGER games and purchase items, and they can purchase NFT sound source created as popular contents.

④ Users earn points by using BTS Token in the BATTLE SINGER.

⑤ BTS points earned by users are sent to BTS wallet.

⑥ Users can use BTS points for services provided by BTS Project and BTS points can also be swapped to BTS tokens.

⑦ Users can swap BTS token to other cryptocurrencies or cash on cryptocurrency exchanges.

⑧ The music content information created in the BATTLE SINGER and the NFT information owned by the users are recorded in the block safely stored and managed through Blockchain System that cannot be forged or altered.

⑨ BTS PLATFORM and BTS Token are organically interlocked through the Blockchain System to develop the BTS Token ecosystem.
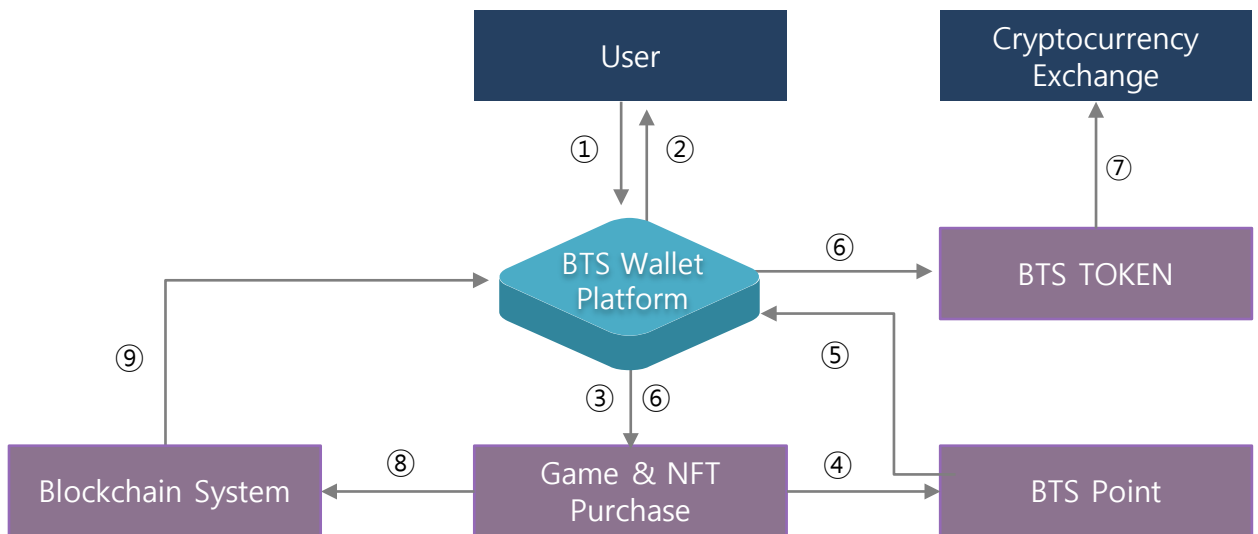
[BTS Token Economy]

PART 3.0
TECH.

PART 3.0 TECH

3.1. WHY, BLOCKCHAIN

All the information of BTS game is uploaded on the blockchain. BTS game participation date, user information, fund flow, etc. are recorded in the transaction. This information is recorded in a node that anyone can confirm. Through this, we create an environment where anyone can enjoy a fair game.

1) Decentralized game campaign creation system

2) Generation of result information such as settlement, progress, event, and rewards, decentralization of information

3) Sharing payment related transaction information

4) Open implementation to decentralized nodes of all of the information in 3)

Battle Singer ecosystem can open 1:1 match, ranking league, match tournament, etc. It provides a system where users can directly open and operate game campaigns by introducing gamer rewards that contribute to service share. We can solve the problems of the existing centralized distribution by providing various communities and open data to it. It is not simply to create an ecosystem where users use money for games, but to create an environment where they can enjoy BTS platform with a position equivalent to the platform operator. We will create the service for users to enjoy various P2P or grouped P2P game methods and services. We will provide solutions that users ⇄ providing services ⇄ share contributors can create together. The law of supply and demand is the logic of the modern market, and it is the driving direction of BTS to provide service in a decentralized way.
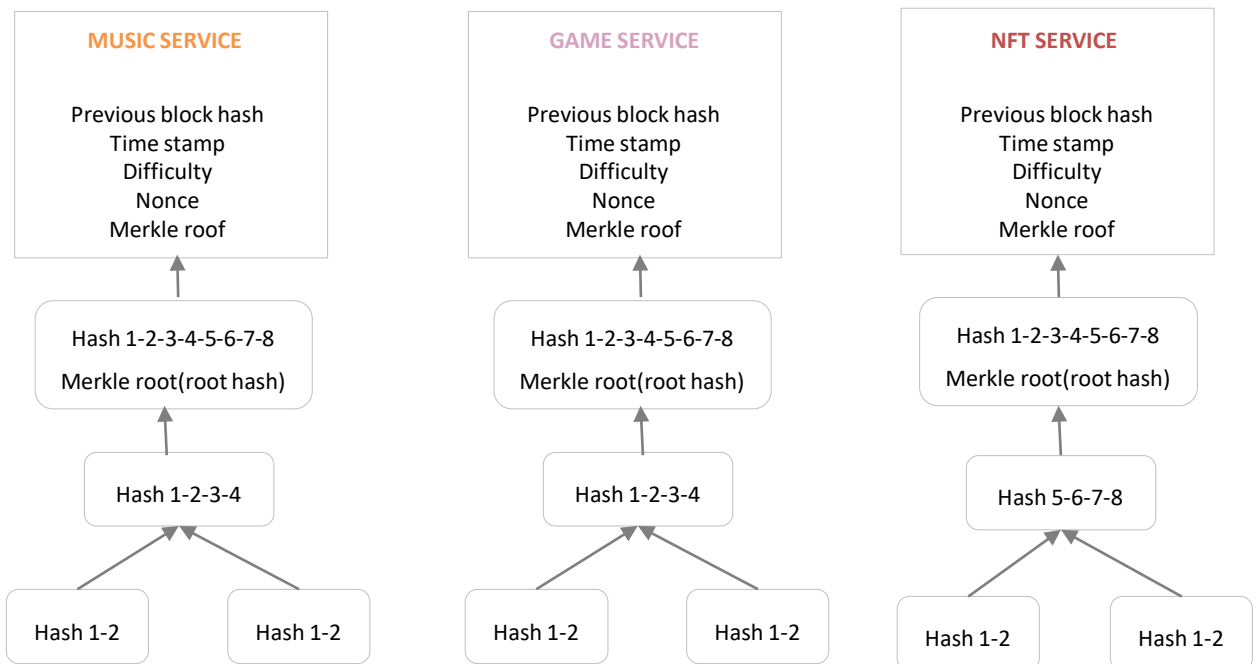
PART 3.0 TECH

3.2 BTS BLOCKCHAIN PLATFORM

BTS platform stores payment and event history data based on decentralized information. The payment service immediately processes deposits and withdrawals through the BTS mobile wallet and eliminates the complexity of the mediation structure. BTS wallet was designed with a stability structure with the functions such as multi-signature, independent server operation, and VM in preparation for asset security and risk. This structure provides the following advantages. The BTS transaction developed through this structure has security and stability. We are going to make BTS API conveniently to be connected to their system structure by removing barriers to major technologies, security, and upgrades associated with the construction of BTS blockchain service network.

① Sharing all payment event information through separation of protocol use case through smart contract

② Introduction of important functions such as network recovery and custom permission

③ Integration of liquidity among smart account, protocol, policy, and notice and {FT1199 }utilization of them in cloud environment

④ Helping users delegate their events activities and building new revenue streams and networks through earning commissions or automation

⑤ New Smart contract is not a distributed structure, so the risk of attack has been removed and simplified

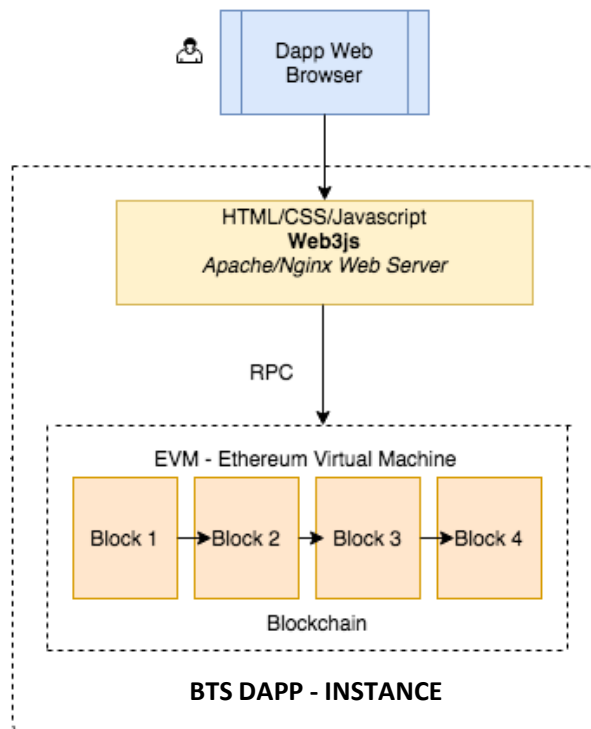| MUSIC SERVICE	GAME SERVICE	NFT SERVICE
Previous block hash Time stamp Difficulty Nonce Merkle roof	Previous block hash Time stamp Difficulty Nonce Merkle roof	Previous block hash Time stamp Difficulty Nonce Merkle roof
Hash 1-2-3-4-5-6-7-8 Merkle root(root hash)	Hash 1-2-3-4-5-6-7-8 Merkle root(root hash)	Hash 1-2-3-4-5-6-7-8 Merkle root(root hash)
Hash 1-2-3-4	Hash 1-2-3-4	Hash 5-6-7-8
Hash 1-2 Hash 1-2	Hash 1-2 Hash 1-2	Hash 1-2 Hash 1-2

PART 3.0 TECH

3.3 BTS DAPP INSTANCE

BTS Dapp is implemented as a decentralized application through the Ethereum platform. All transactions are public, and anyone can see and confirm them. Therefore, BTS transaction data can never be modified. Ethereum protects the network by using an algorithm called proof-of-work to check that all nodes in the network have the same copy of data and to ensure that no erroneous data is written to this database. The database aspect of blockchain stores simple transactions, but it can implement events that occur in the service using smart contracts. Ethereum distributes logic/application code (referred to as contract) with solidity language. It is possible to use the solidity compiler to compile it into Ethereum Byte Code and then distribute the bytecode to the blockchain. The Ethereum blockchain not only stores the contents of transaction, but also it also stores and executes the contract code. Event data(transaction) generated in Dapp is uploaded through blockchain, which implements and executes event function code through EVM.

Dapp was developed through various languages(JavaScript, js frameworks, React(Android, iOS), AWS). It is possible to support a third-party through development scalability and easy API.
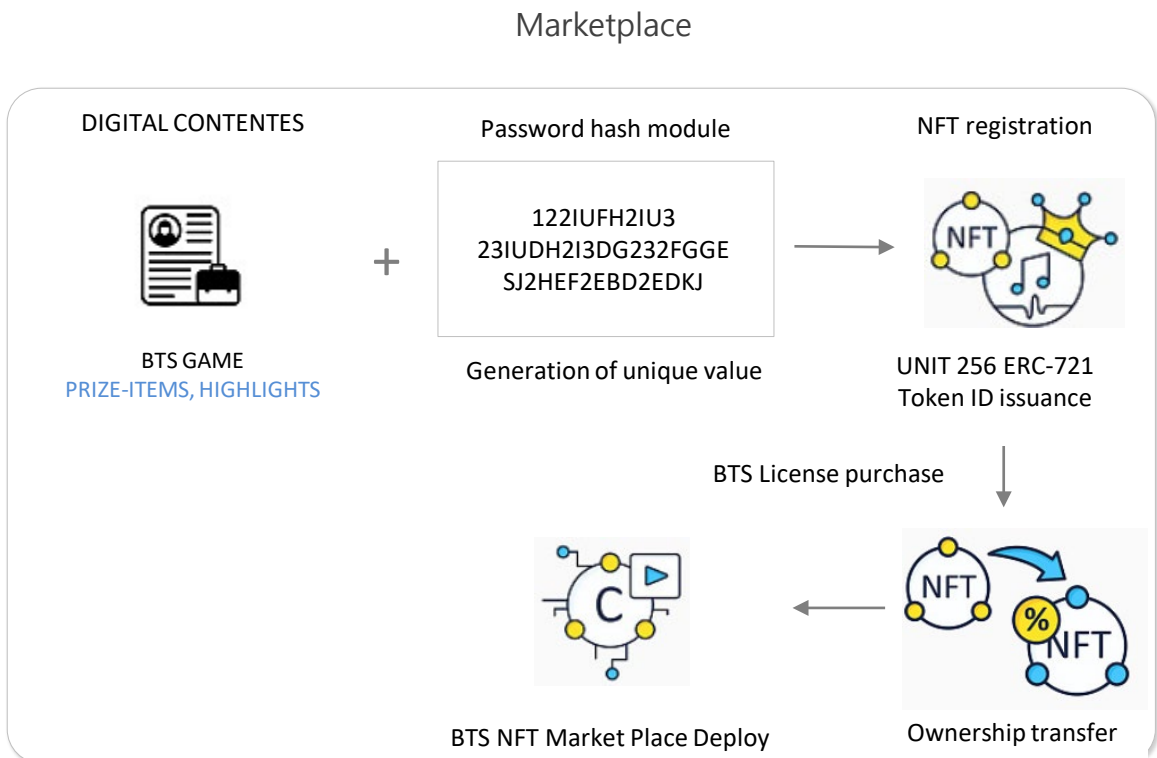

HTML/CSS/Javascript
Web3js
Apache/Nginx Web Server

RPC

EVM - Ethereum Virtual Machine

Block 1 → Block 2 → Block 3 → Block 4

Blockchain

BTS DAPP - INSTANCE

PART 3.0 TECH

3.4 BTS NFT DATA FLOW

 BTS NFT service is operated with ERC-721-based tokens issued on the Ethereum platform. BTS NFT is ERC-721 that defines a standard interface for uncertainty tokens. We follows the standard API implementation of Smart Contract. These standard APIs provide license function to track and transmit NFTs.

BTS NFT standard interface also supports working with various NFTs of Ethereum in the application layer of wallet and various DAPPs. When tracking discriminable assets, the NFT identifier is divided into the UNIT256 ERC-721 Smart Contract ID. A pair of Contract Address and UNIT 256 token ID are unique worldwide and become an identifier that distinguishes full qualification. BTS NFT standardizes secure transmission function and guarantees more powerful digital license through NFT owner, authorized address of NFT, authentication scenario of NFT buyer.

Marketplace

DIGITAL CONTENTES

BTS GAME
PRIZE-ITEMS, HIGHLIGHTS

Password hash module

122IUFH2IU3
23IUDH2I3DG232FGGE
SJ2HEF2EBD2EDKJ

Generation of unique value

NFT registration

UNIT 256 ERC-721
Token ID issuance

BTS License purchase

BTS NFT Market Place Deploy

Ownership transfer

PART 3.0 TECH

3.5 BTS Connecting Protocol

1) BTS Protocol

BTS protocol complies with Google protocol buffers which are language neutral and platform neutral. BTS has been defined as a scalable design that serializes structured data for use in communication protocol and data storage. BTS Ethereum EVM is implemented through a lightweight Turing language which is developed for the service ecosystem. And it is an independent virtual machine. EVM is smoothly connected with the existing development eco system to provide millions of global services. And it implements efficiency, convenience, stability, and security with a blockchain system.

2) Protocol Buffer

BTS Protocol buffer(Proto buff) is made of a flexible, efficient and automated mechanism for structured serialization. BTS's buffer is similar to JSON and XML, but its design has much simpler structure. According to the definition of BTS Proto buff, the code can be organized in C++, Java, C#, Python, and Ruby. This protocol structure has expandability that can be interlocked with Golang, Object C, and third-party development .

3) BTS CLIENT

BTS client incorporates game API definitions and optimizes data transfer. Various third-party clients can use BTS client API. It also integrated through automatically generated code in the backend BTS protocol repository. As for the data type, an easy-to-use data access class is created for our in-house development team. BTS protocol is provided and shared in the form of REST API, so it can be easily used by clients in the HTTP-based JavaScript client.

PART 3.0 TECH

3.6 BTS Architecture

Num	Layer	Explanation
1	Dapp Layer	It provides Nory blockchain application interface. Smart contract, Big Data, Nory Dapp services are included, and direct interlock of data users is performed.
2	Data Layer	It is a storage space for the blockchain data structure. It stores blocks and Dapp files containing Merkle Tree and certified digital signature information, hashes, and transactions.
3	Data Scret Layer	It contains HAMCA data integrity signature, LCDSA data encryption, and transmission section encryption such as SHA transaction hash.
4	BlockChain Layer	The node where the transaction occurred and its own transaction are verified, and the transaction history is recorded in the shared block. If there is a node that is propagated to other nodes and is judged to be a malicious attack, the transaction details are initialized and are synchronized with the verified transaction details.
5	Consensus Algorithm Blockchain	When N players create one block, the i-th block producer signs the i-th block. (One round when i=N) To explain with a simple example, when the BP operates during the rounds of generating blocks and generates 6 blocks each, one round takes (0.5 X 6) X 21 = 63 seconds, and 6 X 21 = 126 blocks are created.

PART 3.0 TECH

3.7 BTS Project Original technology

Possession of Karaoke Original Technology

- Self-developed Soft Midi Player, Synthesizer(SW), Sound-Samples(SW)
- Precision scoring techniques(Pitch, Onset, Duration, Chord)
- Smart Karaoke development team with rich experience(CEO with the career of 7 years of service in KY Lab)

AI Analysis Technology for Singing Voice

- Singer voice authentication/verification based on singer voice feature point analysis technology
- Sentiment prediction technology base on AI analysis of user voice
- Automatic creation of lyrics and music sheet through AI (video, sound) recognition of music video for Karaoke

Remote Multiparty Karaoke Realization Technology

- Remote Chorus Technology synchronizing the voices of remote singers
- Remote video karaoke specialization, real-time video communication technology
- Remote karaoke specialization, virtual room chat support

PART 4.0
DISTRIBUTION

PART 4.0 DISTRIBUTION

TOKEN NAME	BATTLE SINGER	SYMBOL	BTS
PLATFORM	Klaytn	DECIMAL	18
TOTAL SUPPLY	3,000,000,000		
INITAIL PRICE	To be determined		

INVESTOR	48%
Strategical partner	12%
Sales	15%
Sales Bonus	5%
Community	10%
Price policy	5%
Technology partner	5%

PART 5.0
ROADMAP

PART 5.0 ROADMAP

2022. 1Q

First whitepaper and website progress

DAPP development

BATTLE SINGER Korea and Brazil service launch

2022. 2Q

First DAPP BETA SERVICE OPEN(diversification of game content)

BATTLE SINGER Thailand service launch

Sales of BATTLE SINGER accessories and character goods

Media advertisement, store advertisement, and viral loop marketing

2022. 3Q

Second DAPP SERVICE OPEN(Game content advancement)

First listing on the domestic exchange

First NFT marketplace BETA open

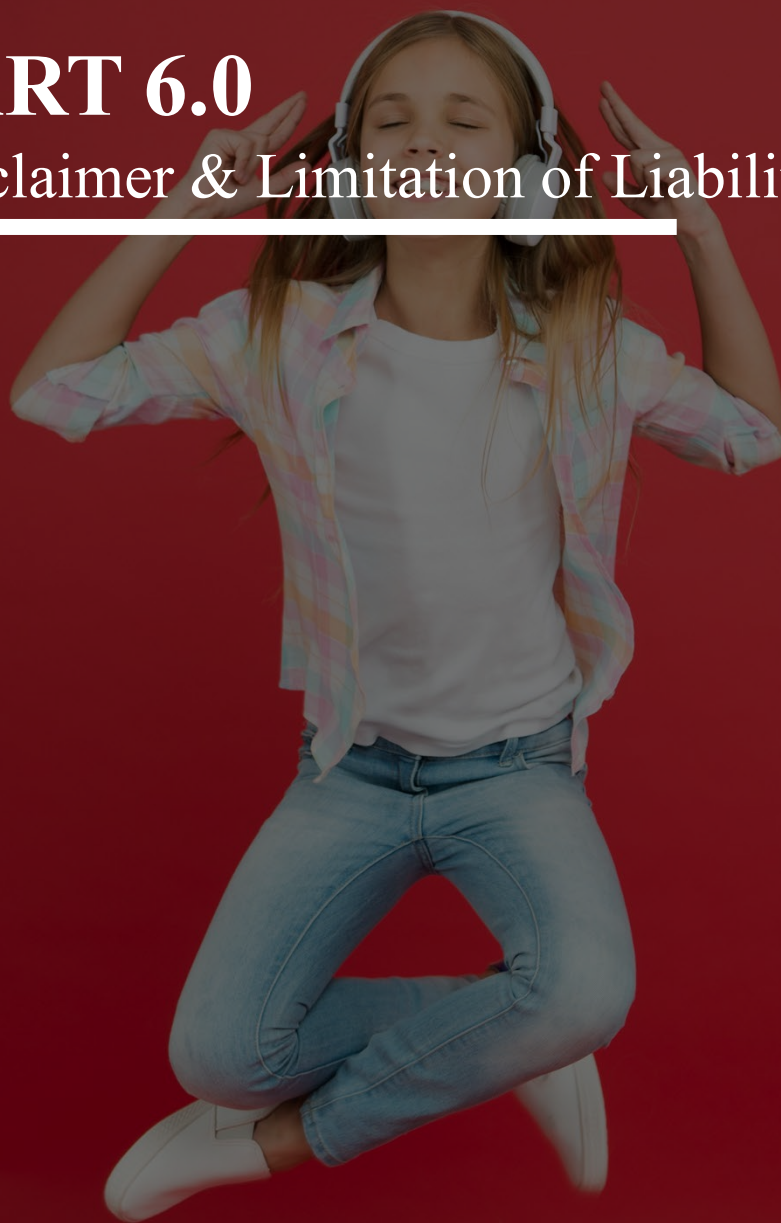YouTube channel operation & influencer marketing

2022. 4Q

Second NFT marketplace service advancement

Second listing on the domestic exchange

Global exchange listing and overseas marketing

PART 6.0
Disclaimer & Limitation of Liability

PART 6.0 Disclaimer & Limitation of Liability

Please read carefully all the information in the disclaimer of this white paper. If you do not know how to act in the future, we recommend that you seek the opinions of legal, financial, tax, and other experts.

1. Disclaimer

(a) This white paper has been distributed for general reference purposes only in relation to the BTS project since it was written and may be reviewed and revised. Please note that this white paper reflects the latest information as of the date on the cover and is not final version. After that date, the information in this document such as BTS token, business operation, financial status, etc. is subject to change. This white paper may be updated on occasional basis. This white paper may be updated on occasional basis. (b) No one does not have a duty to sign a contract or legal binding pledge associated with the trading of BTS token and should not receive funds based on this white paper. The trading of BTS token is carried out through the BTS platform and the related details will be announced separately from this white paper. (c)This white paper shall not be construed as a token sale or purchase offer by the BTS token issuer/distributor/company. Contracts and investment decisions must not be based on or rely on the presentation of this document or the document itself. (d) BTS tokens are not intended to constitute units of securities and business trusts, or collective investment plans. Each definition of this follows the definition set forth in the equivalent regulations of the jurisdiction in which the business is located. Therefore, this white paper is not provided as a business plan, business prospectus, proposal, etc., and should not be construed as an investment proposal or solicitation for units of securities and business trusts, units of collective investment plans, etc. in any jurisdiction. (e) BTS Token should not be understood, interpreted, classified, or treated as an opportunity to participate in the BTS service or receive part of the investment/income/payment/profit, or the part of the money. (f) In a regulatory or prohibited jurisdiction in this white paper, the entire or part of this document can not be copied, distributed, and disseminated. (g) When you want to purchase BTS Token, it should not be understood, interpreted, classified, and treated as followings: (1) any currency other than cryptocurrency; (2) bonds and stocks issued by any institution; (3) rights, options and derivatives in these bonds and stocks; (4) the rights under contracts for difference and other contracts for the purpose of or pretending to be for the purpose of ensuring return on investment or avoiding losses,;(5) a unit of securities or derivatives such as collective investment plans and business trusts.

2. Restrictions of Distribution & Dissemination

(a) It may be prohibited and restricted by the law or regulatory requirements of any jurisdiction to distribute and disseminate all or part of this white paper. If restrictions are applied, you should be aware of the restrictions that can be applied due to the possession of this white paper, seek advice on the relevant laws, etc., and comply with them. The foundation operating BTS, BTS's employees, agents, and affiliates, etc. (hereinafter referred to as 'BTS foundation INC. and affiliate companies), etc., are not responsible for it.

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PART 6.0 Disclaimer & Limitation of Liability

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(b) BTS Foundation INC. and its affiliates do not describe, guarantee, promise and assert truth, accuracy and perfection of the information contained in this white paper regardless of form.

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4. Warning on Forward-looking Statements

(a) The specific expressions stated in this white paper contain forward-looking statements regarding the future, future events and prospects of this project. These things are not statements based on historical facts, but are considered expressions similar to the words such as 'plan,' 'estimate,' 'belief,' 'expectation,' 'prospect,' 'anticipation,' etc. In addition to this white paper, these forward-looking statements may also be included in other publicly available materials such as presentations, interviews, videos, etc. The forward-looking statements contained in this white paper include, but are not limited to, the future results, performance, and achievements of BTS Foundation INC. and its affiliates. .

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(c) As of the date this white paper was written, BTS project is not completed or fully operational. Although this description has been written on the premise that the BTS platform will be complete and fully operational in the future, this should not be construed as any guarantee or promise that the BTS project will be complete or fully operational.

5. Potential Risk

(a) We recommend that you read the following carefully and thoroughly analyze and understand the relevant factors and risks before deciding to purchase BTS tokens and participate in the project. Risks include, but are not limited to the following:

PART 6.0 Disclaimer & Limitation of Liability

(i) Risk of buyer negligence related to security, such as restriction of access to BTS token due to loss of identification information and loss of essential private keys related to digital wallets storing BTS token, (ii) Risk of change in value after issuance of BTS token due to global market and economic conditions. This uncertainty in the value of the BTS token may prevent the BTS Foundation INC. from funding the development of the BTS token ecosystem or maintaining the ecosystem in the intended direction.

(iii) Risk related to change in politics, society and economic environment, change in stock or cryptocurrency market environment, change in the regulatory environment of countries that BTS Foundation INC. And its affiliates operate this business and change of BTS Foundation INC. and its affiliates' ability to survive or compete in this environment. Existing/new regulations associated with blockchain technology, which is disadvantage to BTS token in a particular jurisdiction, may be applied. Therefore, a significant change in the ecosystem and projects of BTS token including BTS token disuse/loss, etc. may occur. (iv) Risk related to changes in future capital needs of BTS Foundation INC. and its affiliates, and changes in capital and financing possibilities to meet them. Lack of funds may affect the development of BTS platform and the use and potential value of BTS token. (v) BTS project may be interrupted and dismantled, or the launching plan can be interrupted due to various reasons including disadvantageous change of BTS token value, business relationship failure, competitors' knowledge property claim during development/operation, etc. This may cause a negative impact on the BTS token ecosystem, BTS token, and the potential utilization of the BTS token. (vi) Risk related to the lack of interest in the BTS project and services by other organizations, such as companies and individuals, as well as the limited public interest in the creation and development of distributed applications. Lack of this interest may limit funding or affect the BTS platform development as well as the utilization and potential value of BTS token. (vii) Risk to apply major changes to the main functions and specifications of BTS token or BTS project before launching or implementing the BTS project and BTS token ecosystem. Although BTS intends that BTS token and its functions will be consistent with the content of the white paper, these changes may still be applied. (viii) Risk of competition with other platforms that could potentially adversely affect both BTS token and BTS platform. (For example: when it does not achieve commercial success due to competitive projects or has gloomy prospects) (ix) Risk that the third party or other people plant harmful and malicious codes to BTS project and interfere with the infrastructure and use of BTS tokens regardless of the intent. The blockchain used in the BTS project is also vulnerable to such attacks, which poses a risk to the operation of the project and related services. (x) Due to the occurrence of catastrophic events such as force majeure and natural disasters, the business operations and other things of BTS Foundation INC. and its affiliates may be affected. Theft and loss of BTS token and BTS token sales amount due to mining attacks, attacks of hackers or other individuals, and deterioration of capability for BTS token ecosystem development, etc. may occur. (xi) BTS token and other cryptocurrencies are new technologies that have not yet verified, and they continue to develop. The function of the BTS token has not yet completed fully and there is no guarantee of its completion. As technology develops, advancements in encryption technology and methods, changes in consensus protocols and algorithms, etc. may act as risks to BTS token, sales of BTS token, BTS platform, BTS token ecosystem, and utilization of BTS tokens. (xii) BTS token does not empower any other subjects to make any decisions related to BTS platform, BTS ecosystem, BTS token, etc. All decisions related to BTS platform and services, stop of BTS token ecosystem, additional creation and sales of BTS token utilized in its ecosystem, sale and liquidation of BTS, etc. are performed at the discretion of BTS Foundation INC.

PART 6.0 Disclaimer & Limitation of Liability

(xiii) BTS token taxation and accounting practices are uncertain and may vary according to jurisdiction. The purchase of BTS tokens may have a negative impact on tax processing, and we recommend that you seek independent tax advice. In addition to the stated risks, there may be other risks that BTS Foundation INC. and its affiliates cannot predict . There may also be risks of unexpected combinations and variations.

(b) When the above risks and uncertainties develop into actual situations, BTS Foundation INC and its affiliates businesses, financial status, operational results, outlook, etc. may be negatively affected. This may cause you to lose some or all of the BTS token's value.

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7. No Advice

Any information contained in this white paper is not considered advice on business, law, finance or taxation for BTS tokens, BTS Foundation INC. and its affiliates. We recommend that you seek expert opinions on law, finance, and taxation for BTS token, BTS Foundation INC., and related business and operations. The financial risk of purchasing BTS tokens may be applied without a time limit.

BTS Project

[Blockchain-based GameandWallet Platform]

E.O.D

BTS Project is a new concept next-generation Blockchain Music Contents Service, BATTLE SINGER Game, and It consists of a cryptocurrency remittance function and BTS Mobile Wallet Platform, a cryptocurrency wallet service that allows QR payment in online/offline stores. Through the blockchain-based BATTLE SINGER, you can enjoy 1:1 battle games and karaoke services at the same time, and you can easily purchase various game items with BTS tokens.

BTS