

W H I T E P A P E R



Yelody

Social Singing Media Network

Ver 1.02

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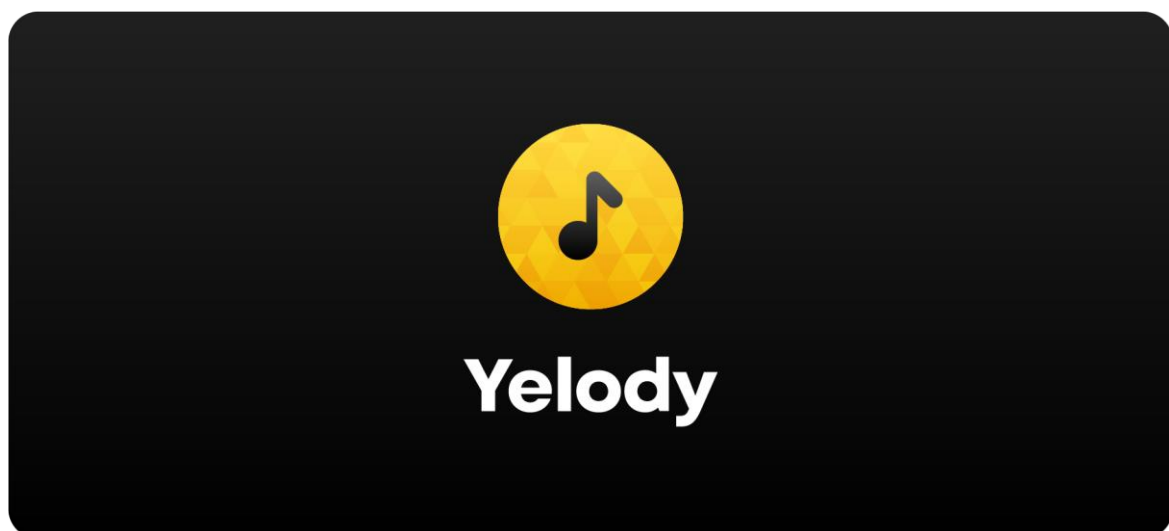
1. Summary

The media market is the only market that has grown without being affected by any disaster in the world. Among them, the field that created the largest upward trend is the music market. From simply listening to music on Apple Music and YouTube Music to background music used in various video materials, even the market for background music used in offline stores has become so huge that it forms one category. The Korean karaoke service that started 30 years ago started with singing in a small room, and now daily 2 million people visit karaoke, and the online market far surpasses it.

Currently, the Binance exchange app, which we all know, has recorded about 50 million downloads on the Play Store, while the karaoke app Smule, which is thought to have lower recognition, has more than 200 million downloads, including more than 100 million on the Play Store alone. When famous related karaoke apps are added together, the total number of downloads exceeds 500 million. According to statistics at the end of 2011, the domestic karaoke market, represented by KUMYOUNG and TAJIN, had approximately 300,000 karaoke machines installed nationwide, and the number of customers visiting karaoke to sing daily was around 2 million.

Despite being something we take for granted, karaoke has not made any significant developments in the past 30 years. It has become an industry with a monopoly that cannot be challenged without capital competition, and even though it has played a role in the growth of K-Pop, it has not exercised enough influence or power.

YELODY is taking the first steps to create a media network that encompasses all of these things: the act of singing, the desire to show others that I can sing well, the charm of seeing someone who can sing well, the continuously created content, and various opportunities such as IP. YELODY aims to further evolve the act of singing and the enjoyment of singing.



2. The Right Blockchain

The media blockchain that YELODY aims to create will inevitably be greatly affected by the frequency and popularity of customer use. In the first step, the music market, which has 15 million daily music listeners in Korea alone, and the karaoke market, which is trying to occupy and has a payment and music tracking system that handles 2M daily traffic, must bear the burden of each transaction's fee in a daily service that is used every day. It is impossible to charge a fee for each transaction.

YELODY plans to start with ERC-20 and support BEP-20 through cross-chain. At the current time, Ethereum with 1 million TPS is used, but at some point, it will have to be a hybrid blockchain for the media blockchain to succeed.

In addition to its app service, YELODY is planning and developing a hybrid blockchain that intersects with other chains for its partner chain and NFT, which are shared with external partners. In the media blockchain that YELODY is aiming for, there are various structures and services such as pay-per-use, OTT, NFT, and revenue sharing, but it is difficult to accommodate them all in a single blockchain. The game industry has had to use a single blockchain, resulting in a limited utilization and expansion of the blockchain's content. Taking this lesson to heart, YELODY will design a more sophisticated blockchain as a way to contribute to the industry.

3. Yelody Media Network

3.1 Integration of Media and Blockchain

The media industry has always sought out interesting ways to create and disseminate content using the latest technologies. Of course, great innovation often comes with high barriers, and there are still many barriers that the media industry has not been able to overcome. Since the beginning of decentralization, there have been ongoing efforts to rely on blockchain to solve problems such as intellectual property infringement, unfair distribution of royalties, counterfeiting content, and incorrect data.

In the field of content distribution, projects that prioritize the fair payment of artists and the disclosure of accurate data on streaming and purchases are numerous. In addition, there are blockchain projects that offer ad revenue payment without fees, transparency in advertising data using personal information, freedom in content censorship, and payment and sponsorship through micro payments.

It is necessary to consider whether the current mainstream media blockchain projects are the result of decentralization in the industry. If the reason for the birth of Bitcoin is the decentralization of finance, then the current media blockchain projects are not significant in terms of decentralization, but are growing within the transparent information disclosure fence. Almost all projects started as new services, so they are hitting the limits of growth, and some projects that were started by companies already making a profit are more easily able to distribute services and generate revenue because they already have users.

Today's decentralized media platforms cannot expect the same network effects as familiar and popular social media apps, and it is difficult to see their visible achievements. However, it is certain that there are various solutions for solving problems. In order for the market to grow in proportion to the many solutions, it can be seen that it is very important for companies recognized in a single industry to enter the market.

3.2 Characteristics of Current Media Blockchains

Among the platforms currently distributing major coins, Ethereum has the largest market share in the media industry. Bitcoin Cash attempted to launch services such as read.cash, memo.cash, and member.cash to take over the existing media sector, but it failed to attract enough users to make a dent. In order to deeply penetrate the media industry, it is necessary for legacy content creators and distributors to be involved, but existing business owners who are already in place are reluctant to collaborate with blockchain projects in order to protect their monopoly.

Audius is the largest blockchain project in the music industry, providing the app in the United States. Audius is actively promoting the growth of the ecosystem by inviting and involving top American singers such as Steve Aoki. They make it possible to pay for functions such as releasing music or managing fans with tokens and provide rewards to fans to build a fan base and maintain the ecosystem. They say that the project will last forever. This may be possible because they were already making a profit.

Opulous and Royal projects operate securities-type token projects where users invest in artists and own music in the form of NFTs and receive returns. Opulous, for example, is a person who made a big name in music distribution as the former representative of Ditto Music. There is also a company in Korea called Music Cow that does the same business. However, the industry does not welcome this. This is because artists are desperate for money and actually sell copyrights to users. If the artists, who are the main driving force of the industry, are not taken into consideration, there will be limitations on growth.

While the media industry is definitely developing, it is still at a point where the entry of companies with a market share in the real market is necessary. Yelody analyzes the fundamental problems in the market and aims to improve these weaknesses through hypothesis experiments and actual operational tests, focusing on ecosystem development rather than profits.

3.3 Challenges We face

The issues that Yelody aims to solve can be divided into two categories: the problems facing the media industry as a whole and the specific problems in the karaoke app market that Yelody has chosen to address. The problems in the media industry include: a) infringement of intellectual and property rights, b) inaccurate royalty distribution, c) counterfeiting and fake content, d) lack of micro-payment systems, e) censorship and freedom of the press. The problems in the karaoke app market include: a) lack of a comprehensive UX, b) risk-free income for artists, c) insufficient distribution of music in karaoke app services.

In the media industry, different sub-industries within the media industry have had different problems. For example, artists who are affiliated with agencies often do not know exactly where their songs are played and how much they should be paid. The problem starts with how much information the agency has made public and continues with the inability to estimate the margins of distribution companies and the vastness of channels actually played. To solve these problems, YouTube has also jumped in and registered copyrights for each video by comparing the audio of each video and taking care of the artists, even if it means taking profits away from them.

It is not possible to prevent the infringement of sound copyright without controlling all play channels in one country. However, if more and more artists are connected to mainstream play channels and media blockchain without going through intermediaries such as agencies, agencies will gradually decline as a solution to "transparent information disclosure" and the market will eventually overcome.

To solve the media industry's problems, such as inaccurate copyright distribution, fake content, small payments, and censorship, many blockchain projects have been developed. The decisive reason for these issues that couldn't be solved in the media industry is technology, capital, and users that can accommodate everyone. It is essential to apply technology to the existing large flow that users are using freely, rather than starting a new service from scratch, as it is difficult to create a large flow.

There are three main problems with overseas karaoke app services that have recorded 100 million downloads: first, because there is no deep experience or history of karaoke services like in South Korea, they are unable to provide applications with proper user experience; second, artists cannot receive copyright investment unless they sell their own copyrights; and third, they do not possess proper accompaniment audio tracks and cannot control audio in real-time, so they are unable to provide necessary features for singing comfortably, such as pitch adjustment.

Yelody is testing technical and social limits to solve these problems.

4. Yelody Services

Yelo Wallet

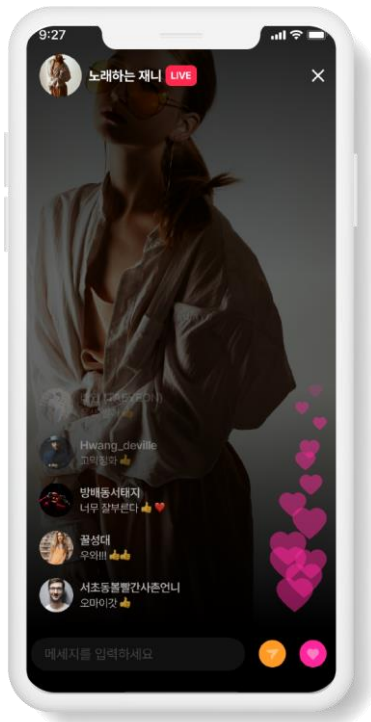
Cryptocurrency wallets play a very important role in blockchain projects, similar to a ID card. Recognizing the importance of wallets, Yelody launched its wallet before the launch of the project. The wallet can be downloaded from the App Store and Play Store.

The Yelo ecosystem encourages diversity, so it is not limited to Yelo's mainnet or a single blockchain and encourages participants to use the blockchain that best suits their technology and functions through cross-chain transaction functions. The Yelo wallet will be a pair with Yelo Pay and will be used for token exchange, payment, and investment with Yelo ecosystem partners and DApps.

The Yelo wallet plays a very important role in the Yelody ecosystem, serving as a necessary element for using Yelody services, including KYC. The functions that the Yelo wallet will support in the future include 1) trade, 2) transfer, 3) certification, and 4) portal. It will be easy to purchase and transfer Yelody through any exchange or coin and will be used as an ID card, as well as a portal for partner DApps.

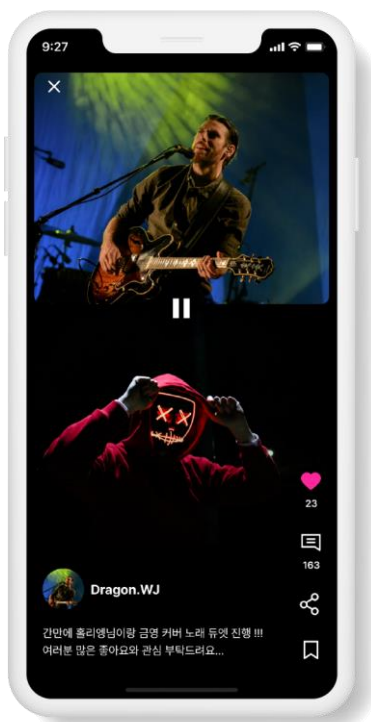
Yelody, the app

Yelody's goal is to provide a deep and immersive user experience for Korean karaoke services and to provide better user experience through song distribution that is suitable for the karaoke environment. Rather than providing WAVE-based accompaniment like other apps, Yelody provides MIDI+SoundBank-based accompaniment that is completely the same as offline karaoke, which can solve all of the above problems. Yelody holds the most accompaniment tracks in the world's largest countries, including Korea, the United States, Japan, China, the Philippines, Indonesia, and Thailand. Based on this, it can provide key adjustment for men and women, pitch adjustment, instrument change, lyrics coloring for parts where real-time singing is required, and a sound with a sense of presence on the scene.



Yelody Live

Yelody believes that it is important for users to be able to broadcast their singing or performances live in real-time. In order to stay ahead of the trend, it is important for as many contents as possible to be distributed through Yelody, and live broadcasts are supported to provide sponsorship, investment, and communication to encourage artists' originality and more connectivity.

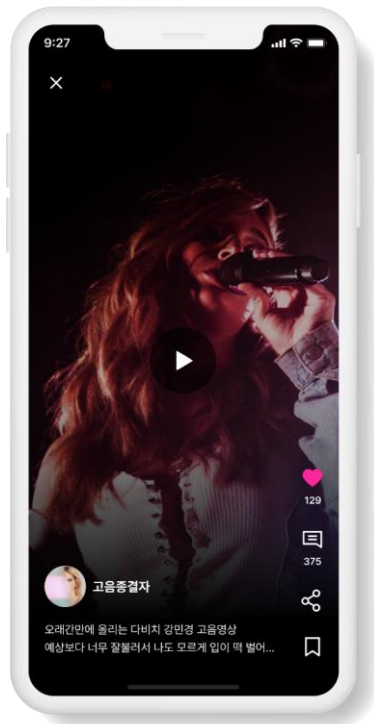


Karaoke

Yelody is proud of and has put a lot of effort into its karaoke feature, which allows users to change the key and pitch of songs using MIDI files from the vast selection of global music that Yelody has acquired. The feature also provides lyrics for users to follow along with, rather than showing the full lyrics at once, improving visibility. In order to make this possible, Yelody has been acquiring MIDI files from certified artists and plans to continue doing so until it has acquired MIDI files for 90% of global music. As part of its token economy, Yelody also plans to provide MIDI files to artists.

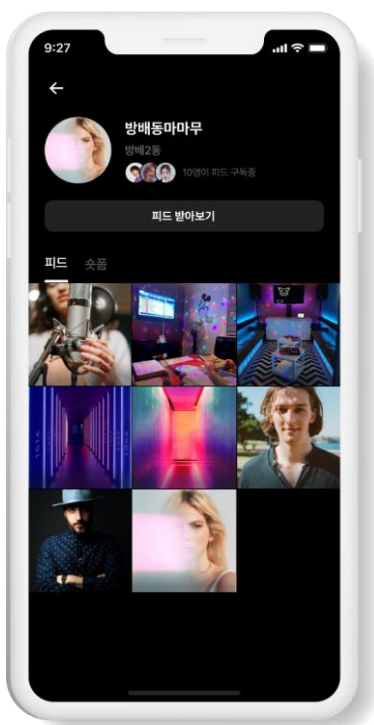
a) Sing Along

Yelody allows up to 6 people to sing together using the Sing Along feature, despite it being difficult to ensure high-quality sound for multiple singers using current technology.



Yelody Short-form

Yelody aims to become a magazine for short-form musicians, following the trend of daily consumption of 300 million views of short-form content on YouTube.



Yelody Timeline

Musicians need their own space. They can share their musical skills and preferences, and divide them by live broadcasts or recording and sharing users' songs on the timeline.

Yelody Items

Yelody is planning to sell Yelody items along with the opening of the NFT market. Some of the items that are being prepared include experience boost items for accumulating experience points, items to increase mining speed, and items for sending gifts to fans

4.2 Yelody Offline

Yelody connections to Offline Ecosystem

- **Yelopay**

YeloPay is intended to be used as the payment method for all media businesses supported by Yelody. Through the QR code payment function, not only traditional karaoke rooms, but also all media partners that pay by viewing the screen will participate, and it is expected to become a pillar that circulates the token economy. Inevitably, cash entered into the token economy through Apple Pay or Google Pay will be circulated through YeloPay, and the environment will be created to connect the physical economy with the support of staking and mining in the Yelo ecosystem through YeloPay.

- **Sing 2 Earn**

Yelody is planning to support mining through Yelo Mining. Mining plays a significant role in the token economy that Yelody is trying to support. To participate in mining, users must visit an actual karaoke room, which aims to integrate offline physical economics with online. The token reward system for offline activities will be securely implemented, and through this, Yelody expects to be able to move the market economy with artists offline.

4.2 Yelody NFT IP Network

Yelody plans to develop a NFT trading function to support individual artists in generating income without risk, a fundamental problem in the media industry. While NFTs in the traditional media market were mainly traded for photo cards or single videos, Yelody plans to open trading for actual creations by artists, rather than just photos or videos that are merely owned.

Yelody plans to develop an NFT trading function in order to support the risk-free revenue generation of individual artists, which is a fundamental problem in the media industry. While traditional NFTs in the media market have mainly traded in photo cards and single videos, Yelody plans to trade in actual creative works produced by artists rather than just photographs or videos that are simply owned. In addition, small businesses or companies will also be able to use tokens to obtain logo songs made by artists through challenges or logo song videos, which will be a great help to the token economy as an advertising revenue source.

The role of artists in karaoke services is to continuously produce and distribute content, which includes MIDI audio work used by actual Yelody app users, rhyme and composing work that can be used in lyrics and album releases, and OST production for Yelody live. Yelody aims to facilitate the entry of general artists into the IP business, which has previously only been conducted by intermediaries and affiliated companies, by making it easy for anyone to use their creations to create new content by tokenizing their creations.

4.3 Dapps and Governance

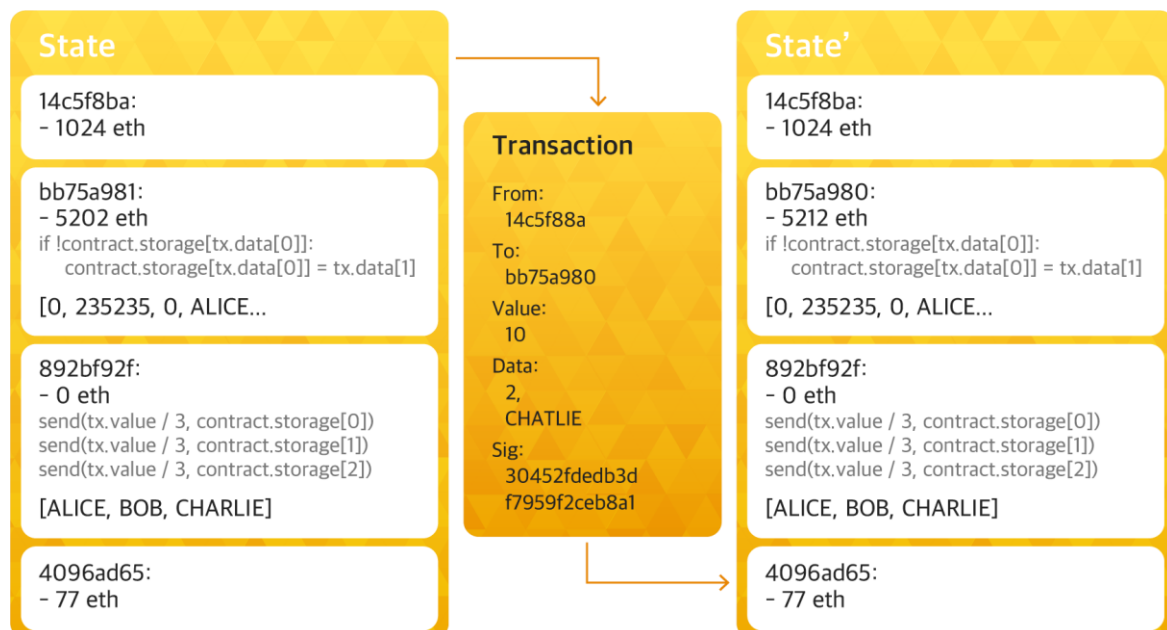
The Yelo ecosystem aims to be a complex system where all parties interact organically and sustain continuous growth. To achieve long-term growth for any community, it is important to establish a healthy ecosystem with a circular structure. One of the most important aspects of this is to ensure diversity, similar to human genetics. The Yelo ecosystem will embrace as many expert groups as possible within the media industry, which is the cornerstone of the media industry, to secure the diversity of the media ecosystem and provide platforms to anchor their roles and stimulate economic circulation and synergy.

Freedom carries responsibility, but it is not possible to rely on a single pillar of the community to bear all the weight. While contributions should be the main pillar, it is important to ensure the freedom of individual projects as much as possible, and to establish a DAO structure through staking, including items on do's and don'ts. The most important part of this is the score of contribution, which is currently being researched for measurement and approval in Yelo.

5. Technology

Yelody is a platform network designed to allow decentralized applications to function on its own blockchain, based on the ERC-20 standard token protocol established on the Ethereum blockchain network. The Ethereum platform is a blockchain with the Turing complete language built in, providing essential and fundamental support, and enabling easy and fast blockchain transactions using Smart Contracts, and compatibility and use within the Ethereum ecosystem.

Smart Contracts are programs that facilitate, verify, and enforce the negotiation or performance of a contract on a blockchain platform, without the need for third-party intermediaries. When the conditions of a contract written in code are met, the contract is automatically executed. Smart Contracts eliminate the need to worry about the trustworthiness of the counterparty or the need for a third party to act as a guarantor, and ensure that the contract is safely carried out. They are programmed to execute exactly as specified, without any downtime, censorship, fraud, or third-party interference, and once recorded on the blockchain, the original terms of the contract cannot be altered by anyone.



This is carried out through the Ethereum state transition function, which is defined as $APPLY(S, TX) \rightarrow S'$, where S is the current state and TX is the transaction being processed. The function checks if the transaction is properly formatted, has the correct value, has a valid signature, and has a nonce that matches the nonce of the sender's account.

In Ethereum, when a user sends a transaction, the network checks the transaction for errors and calculates the transaction fee as $\text{STARTGAS} * \text{GASPRICE}$. The transaction fee is then subtracted from the sender's account balance, and the sender's nonce is increased. If the sender's account balance does not have enough balance to pay the fee, an error is returned. The GAS value is initialized to STARTGAS, and then the value is reduced by a certain amount for each byte used in the transaction. The transaction value is then sent from the sender's account to the recipient's account. If the recipient's account does not exist, it is created. If the recipient's account is a contract, the contract code is executed until the end or until all of the gas is used up. If the transaction value transfer fails due to insufficient fee payment or insufficient gas during code execution, all state changes are undone, except for the fee payment, which is added to the miner's account. All remaining gas fees are returned to the sender, and the transaction is marked as a failure.

```
if !self.storage[calldataload(0)]:  
    self.storage[calldataload(0)] = calldataload(32)
```

The actual contract code is written in low-level EVM code, but for the purpose of ease of understanding, this example uses Serpent, one of the Ethereum high-level languages. This code can be compiled into EVM code. Assuming the contract's storage is empty and the transaction is sending 10 ether, 2000 gas, 0.001 ether gasprice, and 64 bytes of data (numbers 2 represented in the first 0-31 bytes, and the string CHARLIE in the 32-63 bytes), the process of the state transition function in this case would be as follows:

- The transaction is checked to ensure that it is valid and properly formatted.
- The transaction sender is checked to make sure they have a minimum of $2000 * 0.001 = 2$ ether, and if they do, 2 ether is subtracted from the sender's account.
- The gas is initialized to 2000, and since the transaction has a length of 170 bytes with a fee of 5 per byte, 850 should be subtracted, leaving 1150 gas.
- 10 ether is subtracted from the sender's account and added to the contract account.
- The code is executed. In this case, it is a simple check to see if storage index 2 has been used (it has not) and then setting the value of storage index 2 to CHARLIE. Assuming this operation consumes 187 gas, the remaining gas is $1150 - 187 = 963$.
- 0.963 ether is returned to the sender's account and the resulting state is returned.

If the transaction's recipient is not a Contract, the total transaction fee becomes the value obtained by multiplying the provided GASPRICE and the number of bytes in the transaction, and the data sent with the transaction becomes irrelevant.

It is important to note that messages are returned to their original state in the same way as transactions, and if there is not enough gas to execute a message, all other executions triggered by that execution and the message execution itself will be returned to their original state, but the parent execution does not need to be returned.

This means that it is safe for a Contract to call another Contract, as if Contract A calls Contract B with G gas, the execution of Contract A is guaranteed to only lose a maximum of G gas.

The opcode for creating a Contract, CREATE, has a similar execution method to CALL, but the result of the execution determines the code of the newly created Contract.

Through this, it is possible to include not only transaction records but also execution code such as conditional statements and loop commands in the Yelody block, making it possible to use a variety of services beyond just payment. It was developed to ensure the compatibility of tokens that can be circulated on the Ethereum network, and it allows for the implementation of services in which central management is excluded through Smart Contracts, which unfold certain actions ineluctably when transactions are carried out in an online environment.

In a P2P network, while transaction history is recorded on the blockchain, Smart Contracts and execution history are also recorded, and through a protocol that allows easy discovery of other nodes in the network without a central server, it maintains a list of all the nodes that have been connected during a certain period through a bootstrap. When a peer connects to the Yelody network, it synchronizes with other peers in a form that connects first to the bootstrap node that shares the list of peers connected within the last designated time, and is designed as the most efficient way to execute P2P communication on the blockchain through Swarm for message dissemination, Whisper for communication, and ETH protocol for communication of transactions and block hashes.



The Ethereum blockchain, which is the core of the Yelody blockchain protocol, is similar to the Bitcoin blockchain in many aspects, but there are some differences.

One of the main differences between the Ethereum and Bitcoin blockchain structures is that unlike Bitcoin blocks, Ethereum blocks contain a list of transactions and a copy of the most recent state. In addition to these, two other values, block number and difficulty, are also stored within the block.

The basic Ethereum block validation algorithm is as follows:

- Verify that the block number is greater than the block number of the previous block
- Verify that the block hash is valid by checking if it is below the target value (also known as difficulty)
- Verify that all transactions in the block are valid
- Check that the state transition function, which is used to update the state based on the transactions, has been correctly applied
- If all of the above checks pass, the block is considered to be valid and is added to the blockchain.
- Verify that the timestamp of the current block is larger than that of the previous block it refers to, but at the same time is smaller than 15 minutes in the future based on the current time.
- Verify the validity of block number, difficulty, transaction root, uncle root, gas limit, and other Ethereum low-level concepts.
- Verify that the proof of work included in the block is valid.
- Let $S[0]$ be the last state of the previous block.
- Let TX be the list of n transactions in the current block. For i from 0 to $n-1$, set $S[i+1] = \text{APPLY}(S[i], \text{TX}[i])$. If the application returns an error or the total gas consumed in the block so far exceeds GASLIMIT, return an error.
- Append the block reward paid to the miner to $S[n]$ and call it S_FINAL .
- Verify that the Merkle root of the state S_FINAL is the same as the final state root in the block header. If this value is the same, the block is considered valid, otherwise it is considered invalid.

In this approach, storing all states in each block may seem very inefficient at first glance, but it is actually more efficient than Bitcoin in terms of efficiency.

This is because the state is stored in a tree structure, and only a small part of the tree changes after each block. Typically, most of the tree content is the same between adjacent blocks, so once data is stored, it can be referenced using a pointer (the hash of the subtree). The Patricia tree, a special type of tree known for this purpose, modifies the concept of a Merkle tree to not only modify nodes, but also efficiently insert or delete them. In addition, all state information is included in the last block, so it is not necessary to store the entire blockchain history. If this method is applied to Bitcoin, it results in a 5-20times saving in storage space. From a physical hardware perspective, it may be easy to wonder where Contract code is "executed." The simple answer is that the process of executing Contract code is part of the definition of the state transition function, which is part of the block validation algorithm. Therefore, when a transaction is included in block B, the code execution triggered by that transaction will be executed by all nodes that download and validate block B, either now or in the future. In addition, it has scalability by being automatically compatible with services and software that support the ERC-20 standard. Ethereum blockchain itself is a platform, and many solutions implemented on the platform are decentralized based on the blockchain, and Dapp (Decentralized Application) created through this is designed to allow token exchange not only within Dapp, but also with other Ethereum Dapp tokens. This allows it to have the characteristics of blockchain such as anonymity, extraterritoriality, decentralization, and distribution, and it is impossible for a country to directly control it. Economic activities can be automated through Smart Contracts with various objects and numerous parties through contracts.

Through ERC-20, which is easy to manage and compatible, the interaction between Dapps is enhanced, and the likelihood of errors and bugs is reduced when integrating with other tokens.

Blockchain-based Smart Contracts consist of two databases: a blockchain database that stores all transaction logs and a database that stores the state of the Smart Contract. The input values to change these are included in transactions. Transactions interface with the Smart Contract by changing its state through the transaction database, and all data is shared, making it impossible for a specific user to manipulate the execution results of the Smart Contract. Blockchain can guarantee the integrity of smart contracts by ensuring the integrity of all transactions. When certain conditions are met, the contract is automatically executed, reducing the cost of contract execution and the risk of disputes. Smart contracts can also perform actions such as registering, executing, and checking the results of contract contents through interfaces with existing systems such as web servers, mobile devices, and general PC applications. The smart contracts of Yelody also aim to improve various disadvantages that have become entrenched in business practices over the years and create new value through innovation, with low hacking risk, reduced security costs, and no intermediaries, leading to reduced fees and shortened data consistency and integrity verification times. In addition, the transparency of the contract can lead to reduced regulatory costs and the risk of double payment is eliminated, and the cost of building information systems is reduced, among other additional benefits. It operates according to procedures governed by mutually agreed upon rules and is expected to show the greatest synergy effect in areas where trust between parties is required, such as the relevant service.

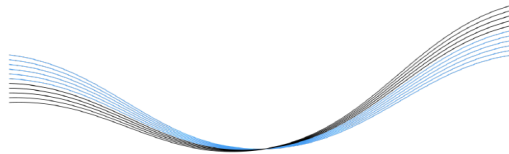
The DApps based on smart contracts have been developed and optimized to provide an optimized ecosystem environment for the Yelody platform, where there are many repetitive contracts in a certain format, remote parties need to enter into contracts, and traceability is required. DApps can execute arbitrary complex algorithm code through the EVM (Ethereum Virtual Machine). All nodes participating in the network execute the EVM as part of the block validation protocol, and all nodes in the network execute all transactions related to the smart contract through the EVM, performing the same calculations and storing the same values. The bytecode stored on the blockchain is executed by the EVM, and geth and the EVM operate in a single process. Because the smart contract operates in the EVM, it does not depend on a specific operating system.

Smart contracts are also recognized by most exchanges and wallets and can be applied to a wide range of exchanges, and are excellent as a universal project and a trading application that can be replaced. In addition, all transactions must be approved, so there are no copies of tokens in circulation, which smoothly verifies the process. It is also characterized by the fact that it can convert various scattered ERC20-compliant tokens into ETH at once. By setting essential and additional functions for contracts to comply with ERC-20, it has flexibility, and we are developing additional functions and variables suitable for the development of the Yelody platform in order to build an optimized platform for related businesses.

5.1 Reliability

340 Gangnam-daero
Seoul,
Republic of Korea 06242
Hexlant.com

Yelody SMART CONTRACT AUDIT REPORT



Audit Date
15 Nov 2022

Category
Token Contract

Auditor
Hexlant Audit Team

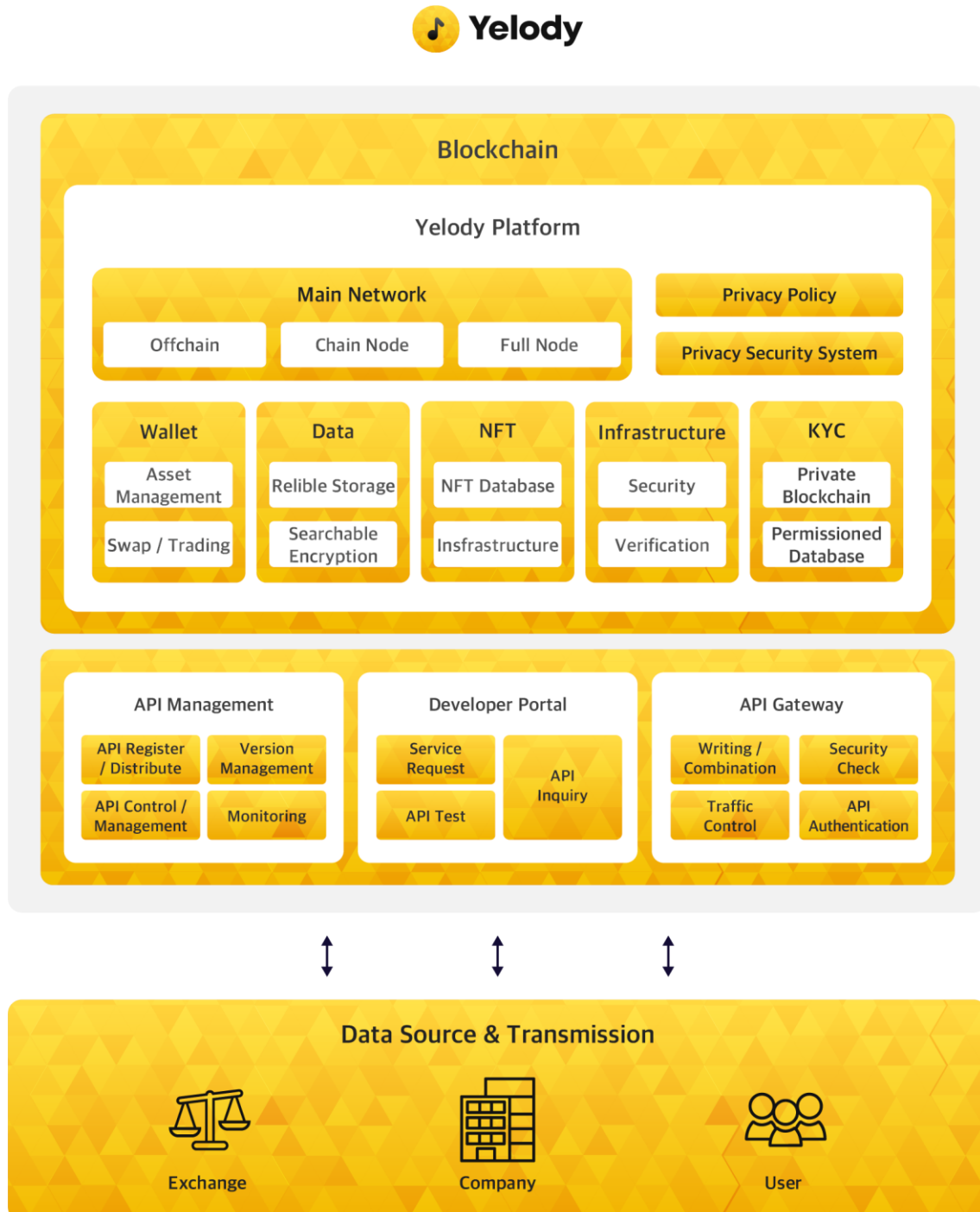
Test Case	Result	
It returns the token name specified at the time of deployment.	PASS	FAIL
It returns the token symbol specified at the time of deployment.	PASS	FAIL
It returns the token decimal specified at the time of deployment.	PASS	FAIL
It returns the initial supply specified at the deployment time.	PASS	FAIL
The initial supply specified at the deployment time is allocated to the contract owner(deployer address).	PASS	FAIL
Token balance of addresses other than the owner(deployer address) is zero right after the deployment.	PASS	FAIL
Essential token transfer works well.	PASS	FAIL
It returns the correct amount of token balance for given addresses.	PASS	FAIL
It reverts when transferring a token amount that exceeds the balance.	PASS	FAIL
It reverts when transferring tokens to zero addresses.	PASS	FAIL
It is possible to approve other addresses to spend tokens of a given address.	PASS	FAIL
It is possible to check the allowance.	PASS	FAIL
It is possible to increase the allowance.	PASS	FAIL
It is possible to decrease the allowance.	PASS	FAIL
It is possible to transfer approved tokens.	PASS	FAIL
It reverts when transferring the approved tokens to a zero address.	PASS	FAIL
It reverts when the sender's token balance is insufficient when transferring the approved tokens.	PASS	FAIL
It reverts when transferring tokens exceeds the allowance.	PASS	FAIL
It returns the contract owner's address correctly.	PASS	FAIL
It reverts when addresses other than the owner transfer the ownership.	PASS	FAIL
The owner can transfer the ownership.	PASS	FAIL
The owner can renounce the ownership.	PASS	FAIL
It reverts when addresses other than the owner renounce the ownership.	PASS	FAIL
It reverts when it delegates the ownership to zero addresses.	PASS	FAIL
Token burn function works well.	PASS	FAIL

Yelody CONTRACT VULNERABILITY ANALYSIS

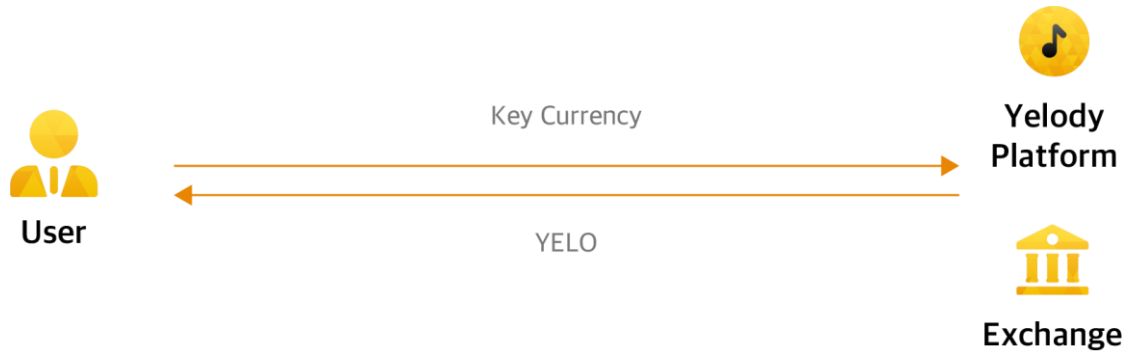
 CRITICAL	0	No relevant provision
 HIGH	0	No relevant provision
 MEDIUM	0	No relevant provision
 LOW	0	No relevant provision

Yelody plans to use NFT (non-fungible token) trading to support individual artists in generating income without risk. In the past, the main NFT trading items in the media market have been photo cards and single videos, but Yelody plans to trade in actual creative works produced by artists, rather than simply owning photos or videos. Yelody also plans to allow small businesses and companies to use tokens to acquire logo songs from artists through challenges or logo song production. In addition, Yelody plans to tokenize the creation and distribution of new content by artists, such as music production and lyrics, rhyme, and album releases, through the use of NFTs, allowing anyone to use the creative works of artists to create new content at a low cost. To ensure the reliability and security of its platform, Yelody has undergone a thorough audit of its Smart Contracts by professional blockchain audit firm Hexlant, and has proven to meet all validation standards without any issues or vulnerabilities.

6. Architecture

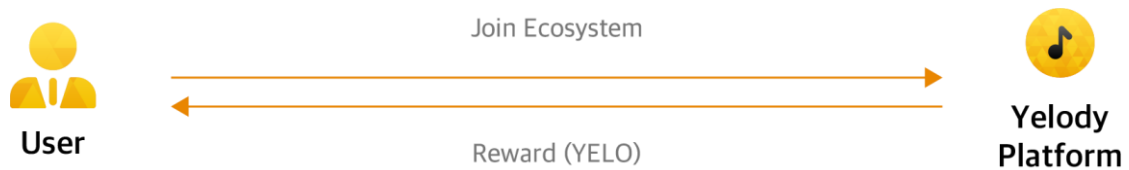


7. Utility



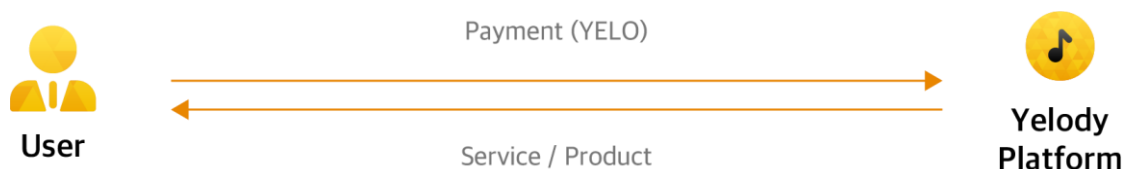
- **Purchasing Tokens**

Users can purchase coins to use the services offered on the Yelody platform directly through the Yelody platform itself or through exchanges that list Yelody.



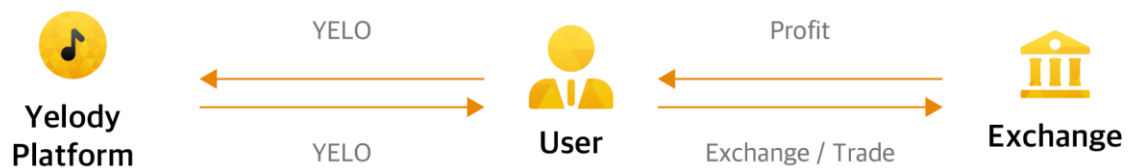
- **To the Ecosystem**

Users who participate in the Yelody ecosystem can contribute to the ecosystem by purchasing and using the services offered within the platform, such as leaving reviews, and they will be rewarded based on their contributions.



- **Token Usage**

Users who participate in the Yelody ecosystem can earn YELO through purchasing and participating in the platform, and can then use these YELO on the market place within the platform for products and services, as well as for paid services on the platform. Participants in the ecosystem can receive more affordable and high quality services compared to those available in the traditional market.



- **Interactions with Exchanges**

Users who own YELO can use the listed exchange to manage additional investments. This allows them to expect additional revenue and use the revenue obtained to participate in the Yelody ecosystem again.

8. Token Information

YELO Distribution Plan

[1] YELO Specs

Yelody Token is initially issued as an ERC20 standard token on the Ethereum blockchain network. YELO is issued for the purpose of development and trade of applications that can be utilized in the Yelody ecosystem, as well as for the participation in the ecosystem, for the transparent recording and management of information. It is also expected to be used for marketing to expand the Yelody ecosystem through partnerships and collaborations with other companies, as well as for the development and maintenance of independent blockchain networks, the construction of platforms, and contingency plans for market changes. In the future, in order to realize the ultimate value of Yelody, it is planned to switch to Mainnet and gradually transfer the functions of the core reward system to YELO Mainnet Coin.

Token name	Technical base	Total issuance	Decimal points
Yelody (YELO)	ERC-20	5,000,000,000 YELO	18

Token Address 0x4e 5678 B1564fbCF12568 f04fb24027C058 34CBFe

[2] Token Allocation



- Team & Advisor (10%) 500,000,000 YELO
- Private (10%) 500,000,000 YELO
- Marketing (10%) 500,000,000 YELO
- Ecosystem (50%) 2,500,000,000 YELO
- Reserve (20%) 1,000,000,000 YELO

[3] unlock schedule

• First Year	500,000,000 YELO
• Second Year	500,000,000 YELO
• Third Year	500,000,000 YELO
• Fourth Year	1,000,000,000 YELO
• Fifth Year	Remaining

9. Road Map



2022 4Q

- >>White Paper 1.0 release
- >>Launch of Yelody coin wallet
- >>Attracting private investment
- >>Listing on global exchanges



2023 1Q

- >>Beta launch of Yelody service
- >>Additional listing on global exchanges
- >>BEP20 token wrapping



2023 2Q

- >>Official launch of Yelody service



2023 3Q

- >>Listing on KRW and global exchanges
- >>Implementation of coin usage in offline karaoke rooms
- >>Construction of payment system
- >>Partnership with NFT IP service provider
- >>Beta launch of Yelody mainnet
- >>Beta launch of Yelody NFT exchange



2023 4Q

- >>Official launch of Yelody mainnet (coin swap)
- >>Official launch of Yelody NFT exchange
- >>Construction of coin mining system for offline karaoke rooms
- >>Additional listing on KRW and global exchanges

-This roadmap may change based on variables that may occur in business direction and development progress.

10. Disclaimer

This document is provided for informational purposes only and its contents may change. The whitepaper is a technical document outlining business plans and visions, and does not guarantee the contents of the business. The original language of the whitepaper is Korean, and there is a possibility of errors or omissions in the translations into other languages. The Korean version of the whitepaper is the most clear and it is recommended to check the Korean version for accurate information. This document does not constitute legal, financial, commercial or tax advice. YELO is not a securities or financial promotion and is not intended to be used as such. This document does not suggest or invite opinions on whether to participate in Yelody or purchase YELO, and should not be relied upon as a basis for contract or purchase decisions. Prior to purchasing, participants should consult with professional advisers regarding any tax and accounting treatment. YELO may not be available for purchase in certain jurisdictions and it is the responsibility of the participant to determine if they are eligible to purchase YELO. YELO is not intended to be used for speculative or investment purposes.

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The participants of Yelody acknowledge that this document recognizes the risks associated with cryptocurrencies, including the inherent volatility of prices and the risks inherent in the cryptocurrency market, and acknowledge that financial losses may occur. The platform is currently under development and the contents of this document may change from the current plan and be updated as the development of Yelody progresses. The contents of this document and the whitepaper may be changed or updated during the operation of Yelody, and the final version may be announced before the date of public sale. In addition, Yelody does not guarantee the operation period, and the platform may be discontinued for various reasons such as insufficient investor awareness and funding for platform development. The participants of Yelody acknowledge that the contents of this document should not be interpreted arbitrarily by the participants.

Yelody is not intended to constitute a regulated product or other regulatory products in certain countries or jurisdictions, and this document does not constitute a guide or legal document. Participants should consult with their own legal and financial advisors before determining whether to participate in Yelody.

This document does not guarantee the accuracy or completeness of the information, statements, opinions, or other matters described. It does not provide any representation or guarantee of any future-oriented or conceptual expressions, such as construction. No part of this document may be used as a means of guarantee or trust for the future and will be exempt from all liability for any loss or damage arising out of or in connection with any measures taken in accordance with relevant laws within the maximum limits permitted. Participants acknowledge and agree to comply with all laws, rules, or regulations applicable to the transaction. YELO acquirers acknowledge and agree that Yelody bears no direct or indirect responsibility for any tax obligations arising from the acquisition of YELO. They also agree and acknowledge that the relevant laws, regulations, and administrative orders may require the disclosure of information on the accounts of YELO participants upon request by government agencies. The summary content included in this document is intended solely to provide a general overview of the contract specified in this document and does not constitute a complete description of the terms and conditions of the contract. Participants acknowledge and agree that they are fully responsible for complying with all laws, rules, regulations, and administrative orders applicable to the transaction.

This document contains certain information, including statements and information about the future, that are forward-looking. With the exception of historical facts, the specific information contained herein includes, but is not limited to, statements about the development and functionality of YELO-related services, including the development and potential adoption, experience, and context of users YELO may offer, the company's business strategy, goals and objectives, and estimates and beliefs based on current internal expectations, predictions, possibilities, estimates, or convictions about future plans, as evaluated by management. These forward-looking statements are not limited to, but rather include, statements about future events and YELO's development and functionality.

Forward-looking statements are often expressed using words such as "may," "will," "could," "would," "anticipate," "believe," "expect," "intend," "potential," "estimate," "budget," "scheduled," "plans," "planned," "forecasts," "goals," and similar expressions. Forward-looking statements are based on a number of factors and estimates made by management and are believed to be reasonable at the time such information is provided. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause actual results, performance, or achievements to differ materially from those expressed or implied by the forward-looking statements.