NEWS CHAIN (propagation chain)

- Blockchain - based traffic propagation ecosystem

English white paper

V2.1

Table of Contents

1 Overview

NEWS CHAIN (propagation chain) is a blockchain-based traffic dissemination ecosystem. Its goal is to establish a network that uses blockchain technology to use decentralized consensus methods to contribute pricing and equity returns to content production. Producers, content investors and content consumers all have reasonable incentives and rewards. Advertisers can also achieve accurate marketing on the platform.

The original design of NEWS CHAIN (propaganda chain) is to construct a set of reasonable content flow advertising value evaluation and income distribution mechanism, and build a value network based on user content evaluation. Regardless of text, video, image, audio, or even live broadcast content-based content platforms (including, not limited to websites, Apps, and other forms of expression), the use of communication chains can be used to construct a content incentive platform corresponding to the theme. Between the platforms, the content is evaluated using a unified content evaluation algorithm, the value of the traffic is evaluated using an effective traffic algorithm, and the advertisement is provided by an accurate marketing algorithm. The content is produced by content producers, content investors, content communicators, and platforms. Constructors, advertisers, etc. will all rely on the ecology of the dissemination chain to obtain appropriate and reasonable returns based on content, traffic value, and precision marketing.

Therefore, NEWS CHAIN (propagation chain) combines social networks, artificial intelligence, big data, and blockchains seamlessly. It will surely enable content-based eco-blockchains based on social networks to create content producers and content consumers. Content communicators and advertising investors share the economic ecology of mutual benefit.

2 design concept

2.1 Industry Background and Starting the Engine

In the past few years, active users, creators and communicators of high-quality content, Facebook, Twitter, Reddit, Weibo, Zhihu, today's headlines and other social networks and UGC (User Generated Content, user-generated content) The platform brought massive traffic and tens of billions of dollars in profits. However, users of these production content do not have complete control over the content they create, nor do they enjoy the full benefits.

Taking today′s headline as an example, the headline currently has more than 50 million active users per day. In 2016, the headline user wrote more than 16.3 million

articles and 50 million responses, and the value of D-round financing exceeded US$10 billion. However, most of the headline value creators, high-quality content producers and traffic generating readers, have not received much reward in addition to gaining respect. High-quality content is often overwhelmed by a large number of poor articles. All this makes it difficult for original high-quality content producers to maintain sufficient creative momentum.

NEWS CHAIN (propagation chain) uses the value transmission protocol over P2P networks to utilize the characteristics of blockchain decentralization, tamper-proof, and transparent disclosure to build a global network data content value ecosystem. The dissemination chain is based on a well-developed modern information network. It establishes a trust model under a decentralized system through blockchains, enabling content producers, content communicators, and other community builders in the community of communication networks to follow Continue to develop a reasonable return.

2.2 Development direction

NEWS CHAIN (Distribution Chain) builds a fair and equitable content production, contribution evaluation, advertisement placement, and equity allocation based on a stable and secure graphene engine through the innovation of a network data content evaluation system and a community participant equity allocation system. Content ecological network.

In addition, NEWS CHAIN (Spreading Chain) enables third-party platforms and developers to develop multiple content-based and traffic-based applications based on NEWS CHAIN to promote NEWS CHAIN (Propagation) by providing an efficient and secure SDK. Chain) the healthy development of community ecology. At the same time, in order to promote and build communities, NEWS CHAIN (Communication Chain) will provide early-stage builders with various assistance.

NEWS (Newton Token) is the only circulation medium in the NEWS CHAIN (communication chain) network. The revenues of content producers, content distributors, advertisement placement and revenue, and community ecology builders must be circulated through NEWT (News Token). At the same time, in the medium and long-term planning of NEWS CHAIN (propaganda chain), third-party platforms and developers are allowed to issue system tokens that meet specific innovative applications based on NEWT (News Token).

Ultimately, NEWT will become the sum of the price of all humanity's spreadable knowledge. All the valuable data and traffic of all humanity will be spread throughout the world through the communication chain. The dissemination chain will become the carrier of the world's value provable data and traffic. Network ecology.

2.3 Mission and Vision

NEWS CHAIN (community chain) is committed to building a global content community ecosystem through the combination of content ecology, advertising delivery platforms, and blockchain. It uses the efficient combination of Graphene

engine and content flow to create content producers and content. The trusted underlying ecosystem of communicators, advertisers, and community ecobuilders.

Producers of content: Content uploaded by content producers (including articles, comments on articles, and flat roads for reviews) are not rewarded by themselves. The user is required to comment, browse, like, and forward the content provided by the user, and these actions will increase the interest of the content, thereby allowing the content author to obtain a token reward. This mechanism ensures the validity of the content.

Content communicators: Content communicators, through the evaluation of content values (browsing, commenting, praising, forwarding, etc.), systematically define and analyze their behavior and reward communicators of valuable content with tokens. Through this mechanism, the value of content can be promoted on the one hand, and content producers can receive corresponding token rewards to promote the creation of more valuable content. On the other hand, through the token incentive mechanism, content communicators are encouraged to spread value and complete information. The transition from internet to value internet. Specifically, the registered users in the official APP of the dissemination chain can obtain more rewards by sharing or forwarding the valuable content data in the official APP to other platforms such as WeChat, QQ, Weibo, etc., thereby attracting more users to register and use. The official APP of the dissemination chain will further promote the continuous improvement and development of the value chain content of the communication chain.

Advertisers: Advertisers want to serve ads and can purchase tokens at the exchange. The dissemination chain does not provide a unified advertising access system. Advertising access is provided separately based on the official APP or other application of the propagation chain. However, advertisers need to use NEWT currency regardless of where they place their ads.

Community Eco-builders: NEWS CHAIN (Spreading Chain) encourages participants who contribute to community building and development through token-based rewards (such as community promotion ambassadors, witness nodes, etc.).

In short, our mission is to help and motivate everyone to share content and innovate knowledge. All participants in the dissemination chain (including but not limited to producers of innovative knowledge, value-based content disseminators, readers) will receive corresponding NEWT awards. , making NEWS CHAIN the most accurate and wide-ranging certification economy for the transmission of valuable data and traffic value worldwide.

3 Ecosystem

3.1 Ecological Participants Overview

Participants of the NEWS CHAIN ecosystem: content producers, content investors, content communicators, general users, paying users, advertisers, community-based

reviews of content, official APP, content-oriented asset distribution, and dissemination chain The AI system and others form a complete ecological closed loop.
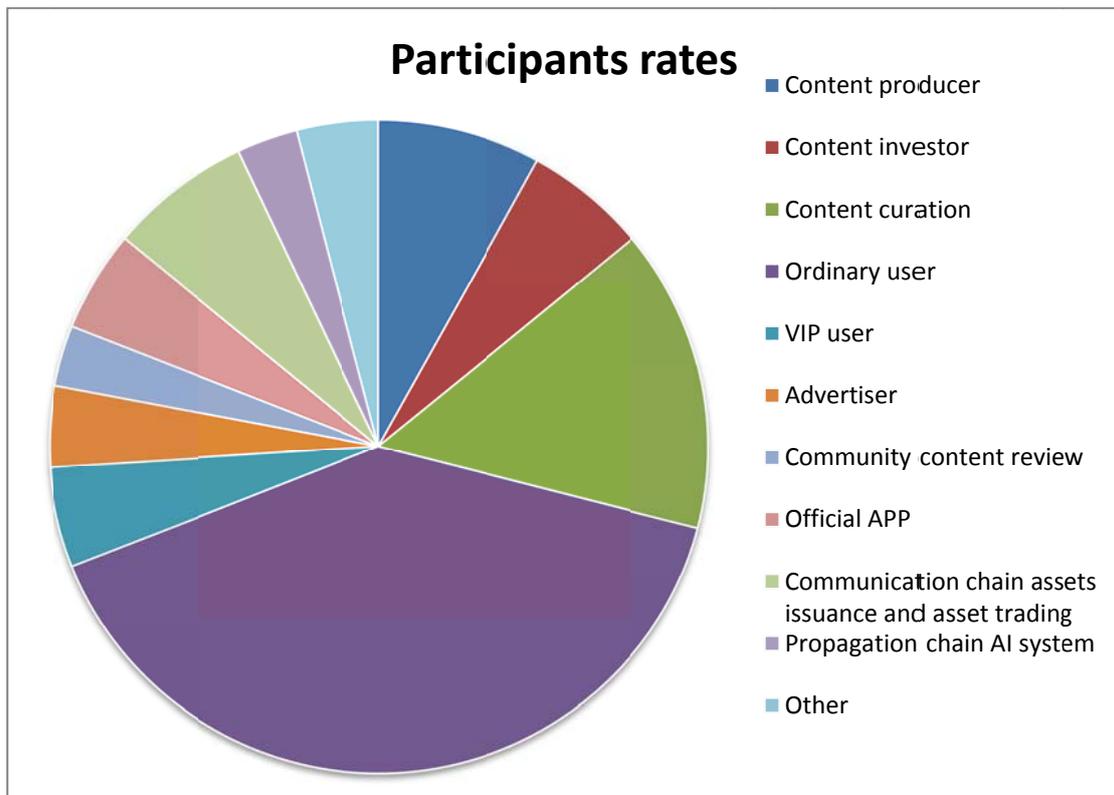
3.2 Content Producers

NEWS CHAIN (Spreading Chain) encourages content producers to continuously create and publish valuable data content through token rewards, and obtain corresponding token returns through fair and reasonable content and traffic rating systems. The content producers and NEWS CHAIN (community chain) complement each other and jointly promote the healthy development of the community.

3.3 Content Investors

The content revenue sharing function is another innovation of NEWS CHAIN. Content producers can set the investment model when publishing content, and set the share of revenue share for transfer and deadline for investment. During the deadline, content investors can invest in the content by share, and content producers can obtain a one-time income first, and this content will be automatically distributed to content producers and content investors by share in smart contracts after the lock-up period. .

The content revenue sharing function allows users to invest in excellent content generated by other users and gain a share of their revenue, and content producers (investors) can also use this to obtain one-time income and subsequent share of proceeds.

3.4 Content Communicator

NEWS CHAIN (dissemination chain) first established a social media platform with general information distribution as its theme through a content reward and reward mechanism, and gradually completed the content distribution mechanism for social networks, and finally realized a high-level content community ecology for content distribution services. Specifically, the users of the official APP of the dissemination chain can forward the content in the terminal to other platforms (including but not limited to WeChat, QQ, Weibo, Facebook, and Medium) through the forwarding interface, and the forwarded content is determined to be valid. Forwarders will receive corresponding token rewards. Through this mechanism, users are continuously attracted to the dissemination chain ecosystem and gradually become the world's largest blockchain-based traffic dissemination ecosystem.

At the same time, NEWS CHAIN (propaganda chain) uses an effective traffic verification mechanism to prevent malicious brush traffic; an effective amount algorithm is used to evaluate the value of traffic, and an accurate marketing algorithm is used to provide effective advertising for advertisements. Advertisers obtain digital currency through the trading market, purchase traffic, and place advertisements. Through a variety of communication links APP and NEWT (News Token) balance and encourage all parties to form the most effective digital content market.

3.5 Ordinary users

Ordinary users authorize the platform through the wallet supported by NEWS CHAIN (propagation chain), and can authorize the platform agent to use its authentication authority. The authority can be used to perform cross-site login, single sign-on, content rating, posting content, comments, etc. Operation, because this is a restricted privilege, it is impossible to perform key operations on the user's main wallet, and assets cannot be transferred. At the same time, the platform cannot obtain user keys, ensuring the security of user assets and ensuring the openness of the system. Ordinary users can also revoke authorization at any time.

3.6 paid users

Since the outbreak of the media wave, data content has completely entered the era of excess, and users need other agencies to help them obtain high-quality content more quickly, even if the user needs to pay a certain fee is also reasonable. At the same time, traditional content is weakened by advertising and soft papers in the free mode, and new mechanisms are required to break the status quo. The great success of the payment model represented by the "New York Times" gave a spotlight to the content payment. In the dissemination chain, paying users can directly use NEWT to pay content providers to ensure timely access to interesting and valuable data content.

3.7 Advertisers

The advertising system can enhance NEWT (News Token) liquidity and increase platform revenue. It is a key component of the entire ecosystem.

The general online advertisements are "Pay Per Ad Space", as well as various billing models such as "CPC", "CPM", "CPA" and so on. . Considering that pay-per-click

and pay-per-view types of ads are often subject to click/pageview fraud, and need to introduce mechanisms such as oracles to be used by a blockchain system, in the early stages of development, The NEWS CHAIN advertising platform does not intend to introduce and develop this type of billing model. Instead, it will introduce a billing model that pays by ad slot by duration.

NEWS CHAIN advertising as a content is also an integral part of the content on the chain. The dissemination chain provides a unified advertising platform on the chain and sells advertisements for the platform that are paid in terms of length of time or according to advertising positions and are paid for as downloads.

In this system, the advertising location options and costs that each platform can provide will be displayed, and the performance of these platforms in the blockchain and historical data (such as income, quantity of content, etc.) will be displayed for users' reference.

The user can directly pay the token for purchase, and the witness can review the advertisement and can then advertise. Witnesses are third-party witnesses and are generated by community voting.

Matching ads and content is achieved in two ways:

1) Advertiser manual matching

2) AI auto association matching

3.8 Community Content Review

In the data content traffic ecology, the content review system is a crucial link, and the data content display on the dissemination chain must comply with relevant national laws and regulations. For example, in mainland China, it is necessary to abide by the relevant provisions of local network supervision laws, cultural departments, and public security departments.

Therefore, the use of a community-based content review system in the content review of the dissemination chain enables the content stored and disseminated on the chain to have a healthy social orientation, value orientation, and aesthetic orientation.

The propagation chain provides a set of community-based auditing interfaces for each connected application or website. Allows developers to implement content review and content filtering services on this interface. This set of community-based auditing interface not only supports the review and editing of professional content of the access users, but also supports community users to vote out NEWT that is not suitable for the content and obtain community rewards through voting rules set by the access users.

This community-based auditing interface has been included in the NEWS CHAIN development API. All developers participating in NEWS CHAIN are welcome to update and improve it.

3.9 Official APP and API

The schematic diagram of the official APP architecture is as follows:
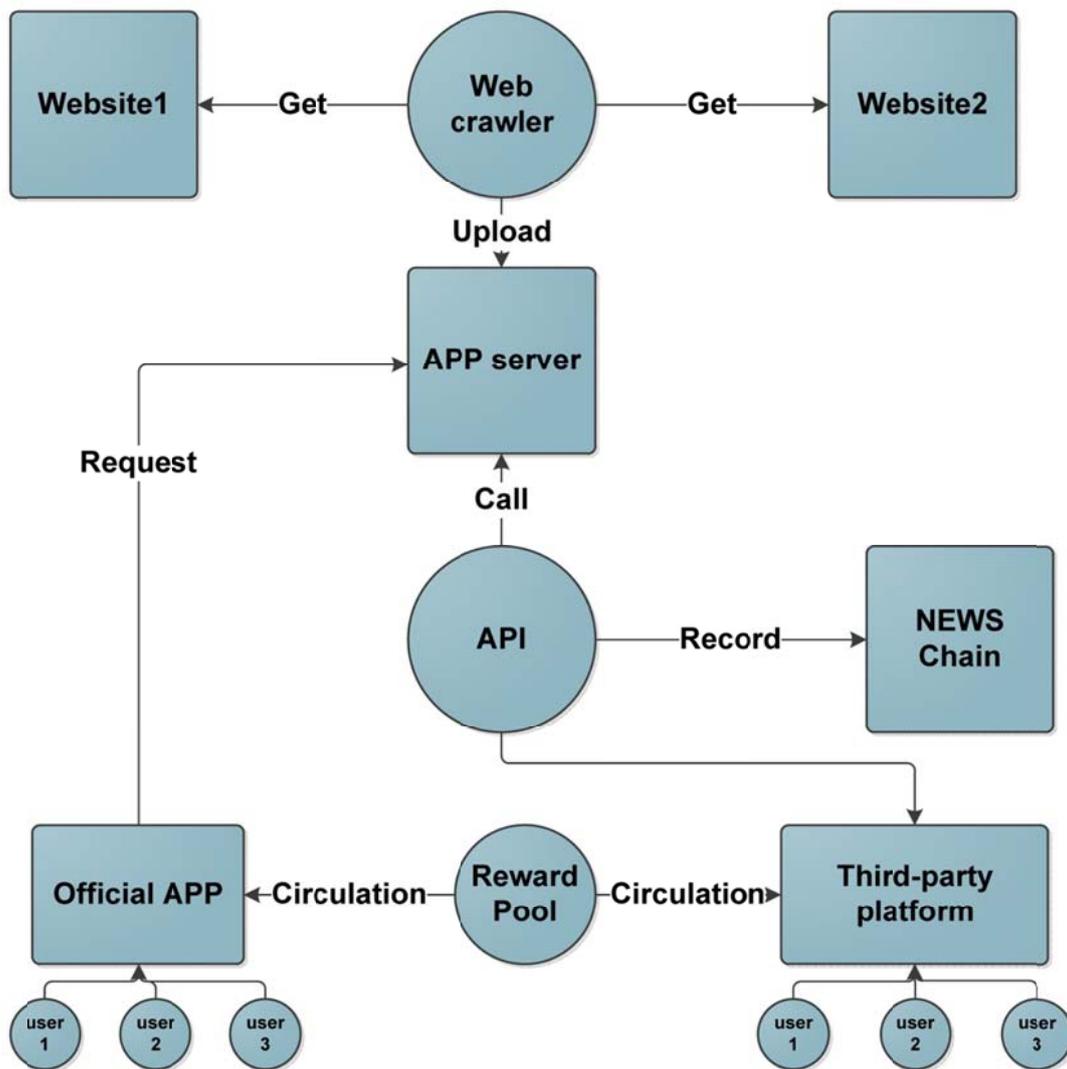
NEWS CHAIN (Propagation Chain) provides a decentralized content and traffic value assessment and transmission network designed to create a common blockchain network with data content and traffic as its core. Therefore, NEWS CHAIN (Propagation Chain) provides an efficient and secure SDK that enables third-party platforms and developers to develop multiple content-based and traffic-based applications based on NEWS CHAIN (Communication Chain) and jointly promote NEWS CHAIN (Communication Chain) community Ecological development. At the same time, in order to promote and build communities, NEWS CHAIN (Communication Chain) will provide early-stage builders with various assistance.

The dissemination chain provides a uniform and accessible API for all third-party openers. These APIs include:

Chain api - chain api: Specific examples are as follows:

Chain Show/Hide List Operations Expand Operations GET /get_version get version of Steem GET /get_accout_cout number of accouts GET /get_chain_properties get chain properties GET /get_config get config GET /get_dynamic_global_properties get_dynamic_global_properties GET /get_feed_history get_feed_history GET

/get_curret_median_history_price get_curret_median_history_price GET /get_hardfork_version get_hardfork_version GET / Get_next_scheduled_hardfork get_next_scheduled_hardfork

In addition to this, the propagation chain includes the following series of APIs: Witness api - Witness api

Get /get_witness_count

Get_witness_count

Get /lookup_witness_accounts

Lookup_witness_accounts

Get /get_witness_schedule

Get_witness_schedule

Get /get_witnesses

Get_witnesses

Get /get_witness_by_account

Get_witness_by_account

Get /get_witnesses_by_vote

Get_witnesses_by_vote

Get /get_active_witnesses

Get_active_witnesses

Get /witness_update

Witness_update

Get /get_miner_queue

Get_miner_queue AccouNEWT api - account management api

Get /get_state

Get_state

Get /get_account_votes

Get_account_votes

Get /get_account_history

Account history

Get /get_accounts

Account

Get /get_conversion_requests

3.10 Communication Chain Assets Issuance and Asset Trading

The chain of communication can not only price the content, but also can price the assets that are similar to the content based on their intrinsic value.

The dissemination chain platform provides users with the property of issuing assets to establish business models for specific service projects. User-issued assets refer to customized tokens registered on the spread chain platform, whereby the token users can hold and trade with each other, and comply with the rules set by the issuer. The issuer can publicly name, explain, issue user tokens, and add custom specifications to

tokens. At the same time, in the long-term planning of the dissemination chain, third-party value targets (such as shopping vouchers, rebates for sales activities, etc.) can be distributed through the chain of distribution. Different value providers conduct asset distribution and transactions through the dissemination chain.

A third party of NEWS CHAIN may purchase NEWT as an asset for collateral or lending, and in compliance with the NEWS CHAIN Assets Issuance Agreement, it may issue relevant digital assets as required. These digital assets can be freely traded under the NEWS CHAIN framework.

For details on the channels and methods of joining, see the description of the NEWS CHAIN content ecosystem and foundation.

3.11 Propagation Chain AI System

The propagation chain comes with an AI system (smart recommendation algorithm). The AI is based on a deep learning algorithm. It can create portraits based on user behavior, predict the content of interest to the user, match the content of the chain end, and push content for the user.

At the same time, the AI can also cooperate with the advertising system to help advertisers associate content and advertisements with the best price/performance ratio.
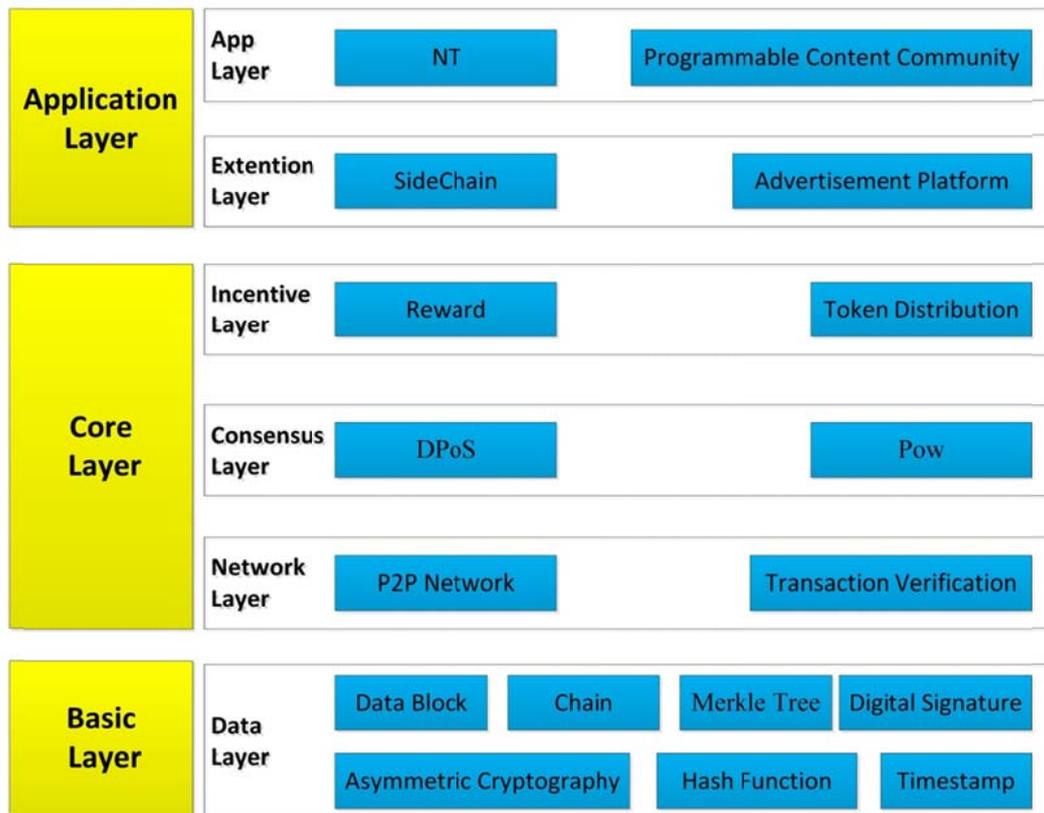
As the content of the dissemination chain becomes more and more abundant, the AI can also learn in depth, integrate content on the chain, and produce new content based on AI, enriching and expanding knowledge of human knowledge.

4 Platform Architecture

4.1 Blockchain Architecture

4.1.1 Technical Architecture

NEWS CHAIN uses a graphene engine.

Among them, the basic data layer includes the definition of the block structure, the implementation of cryptographic primitives, and the definition of the blockchain chain structure. It is the bottom line of the entire NEWS CHAIN (communication chain); the core layer includes the network layer and consensus. In the three layers, the network layer mainly includes the P2P network message propagation mechanism and the NEWT (News Token) transaction verification mechanism. The consensus layer uses the DPoS + PoW consensus mechanism to achieve the consensus of the blockchain ledger. The incentive layer contains The reward mechanism of community eco-constructionists and the distribution mechanism of NEWT (News Token), the only circulation medium in NEWS CHAIN (distribution chain) ecosystem, is the core and most important part of NEWS CHAIN (transmission chain); the application interaction layer is Based on the basic layer and core layer, a top-level application based on NEWS CHAIN (propagation chain) application APP, side-chains, and advertisement delivery platforms, and a benign development of programmable content ecological environment are constructed.

Graphene, Graphene, is a blockchain underlying technology architecture created by EOS founder Daniel Larimer. The technical advantages are summarized in the following five points:

(1) Low cost: The use of DPOS to vote out the block, without the consumption of POW mining hardware and electricity, thus reducing the cost of system operation, the user's use cost (procedure fee) has also been greatly reduced

(2) High security: The multi-signature of graphene adopts a weighted mode. Different private keys are assigned different weights. In the case where individual private keys

are lost, as long as the total weight of other private keys reaches the set initial value, assets can be guaranteed. Not lost

(3) High capacity: Graphene places key data such as user balance/asset attributes into memory and establishes an index that can be quickly searched, maximizing the speed of data processing, and thus increasing the capacity of each block.

(4) High speed: Confirm speed blocks, high concurrency, high efficiency, suitable for commercial use

(5) maturity and stability: commercial applications require a stable and mature system, any unstable factors are potential risks

The uplink information of the propagation chain includes content, users, and relationships. The specific examples are as follows:

4.1.2 Consensus Mechanism

The dissemination chain adopts the DPoS mechanism. The Chinese name is called the share authorization verification mechanism (also known as the trustee mechanism). Its principle is to let every person holding a coin vote, and thus generate a certain number of representatives, we can understand it as a super node or mining pool, and these super nodes have exactly the same rights.

From a certain perspective, DPOS is somewhat like a parliamentary system or a

people's congress system. If delegates cannot perform their duties (when they are

not able to generate blocks) they will be delisted and the network will elect new super nodes to replace them.

4.2 Token production and circulation

4.2.1 Total Control of Coinage

NEWS CHAIN generates a total of 10 billion NEWT (News Token). The principle of controlling the total amount of tokens is to grow with the growth of the dissemination of content, taking into account the currency system, and eventually reach a fixed total amount.

The total amount of tokens consists of two parts. The first part is the token pre-digging part. The second part is the token production part, which is the increment generated by the annual DPos mechanism.

With the continuous development of the community, the data content of the dissemination chain network will continue to grow. Therefore, after the increment generated by the DPOS mechanism is completed, the additional issuance of NEWT will be decided by the Communication Chain Management Foundation.

4.2.2 Token Pre-excavation

A total of 6.5 billion News Tokens issued in this issue were pre-excavated on the Genesis block. According to the principles of the previous design assignment to the various participants in the ecology.

4.2.3 Token Production

According to the consensus mechanism of NEWS CHAIN, 500 million tokens will be produced each year for a continuous production of 7 years.

NEWS (News Token) is the only circulation medium in the entire community ecosystem. The production and circulation of NEWT (News Token) conforms to disciplines such as economics, sociology, and operations research.

News Token is based on the graphene engine. The production of the News Token is divided into the following two situations:

1. When the user produces content, a News Token is generated through the witness node packaging block.

2. The miners and witnesses will generate a pass through the mining node or the whole node to package transactions, package contents, and verify.
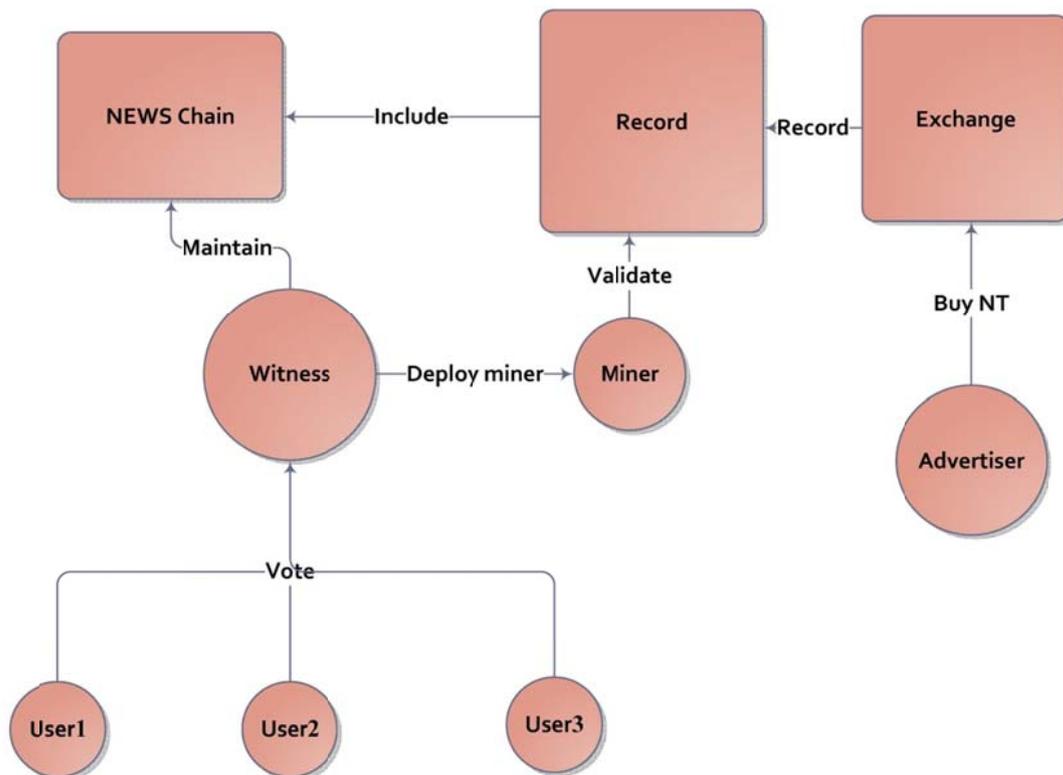
4.2.4 Token circulation

News Token's circulation includes income and expenses. When eco-participants earn News Token, the News Token in their wallet will increase; when eco-participants spend News Token, the News Token in their wallet will decrease.

The income includes the following aspects:

(1) System rewards obtained by content producers through the production of valuable content

(2) Systematic rewards obtained by content communicators through the transmission of value content

(3) Witness node and miner reward

(4) Community Builder Awards

(5) Others

News Token expenditure includes the following aspects:

(1) Advertiser traffic purchase

(2) Content consumers purchase paid content

(3) payment processing fee

(4) Transactions on small products and services and their assets

(5) Content Investment

(6) Daily consumption such as rewards and sticking

(7) Others

4.2.5 Coin repurchases

The Communication Chain Management Foundation will decide whether or not to make a token repurchase based on the market situation and extensively solicit the situation of the communication chain ecological community.

The dissemination chain official APP promises that if the foundation needs it, it will use up to 20% of its profit each year to repurchase tokens from the market. After the repurchase is completed, these tokens will be managed by the foundation.

4.3 Ecological incentive mechanism

NEWS (News Token) is the only circulation medium in the entire community ecosystem. The eco-reward system establishes a community eco-reward mechanism through the platform's original POP (Proof of Participation) algorithm, which is specifically used for token rewards from community contributors. The number of News Tokens in the first-year Reward Pool accounted for 5% of the total Number of

News Tokens issued. After that, 5% of the News Tokens will enter the pool each year for a total of 7 years.
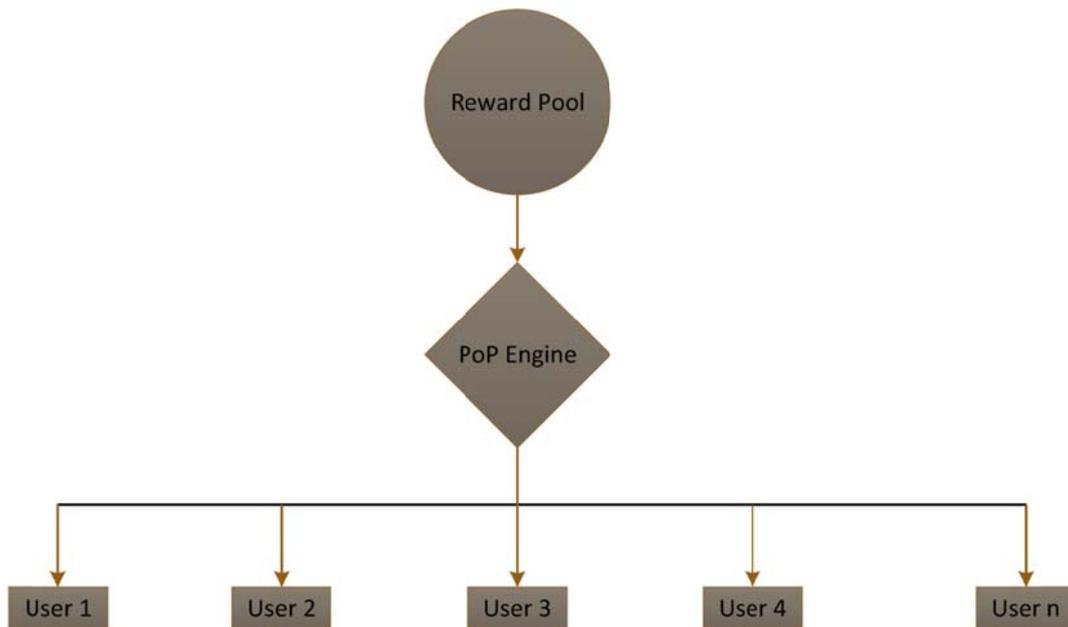
4.3.1 Settlement time

In the dissemination chain, each eco-player's contribution value reward needs a fixed settlement period, which is initially defined as 3 minutes. That is, the community incentive pool will settle the community token rewards every 3 minutes, and will automatically be NEWT (News Token) after the completion. Distribute to the corresponding user's personal wallet.

4.3.2 Award Distribution Mechanism

The community ecosystem uses the original PoP (Proof of Participation) algorithm to rationally distribute the tokens in the day's community incentive pool. The calculation method is as follows:

(1) User rating:

In the design of the dissemination chain APP, the users registered in the terminal will be divided into different levels according to different types of effective behavior. The specific principles are as follows:

1 There are three main categories of effective user behavior: content creators, content forwarders, and content readers.

2 levels of the same user can be divided into creator level, forwarder level and reader level according to the above principles

3 Under the same conditions, the higher the level of users′ contribution to the system ecology is, the higher the system reward will be.

(1) Content creators:

The official APP terminal of the dissemination chain provides registered users with knowledge and content innovation capabilities, and adopts a community content evaluation system. When the user's data is supported and recognized by the community, the system will give him corresponding rewards, and the more premium content will receive more token rewards.

The user can praise, click, and comment on the content. The weights of the three behaviors are 1.2, 0.8, and 1 respectively. The user's weight is divided into 10 levels. Each level has a corresponding weight. If the user likes, clicks or comment is defined as: , the effective value of a single content is defined as:

$$P_s = \sum 1.2 \times F_i \times VU_i + \sum 0.8 \times F_j \times VD_j + \sum 1 \times F_k \times VC_k$$

The total value of all articles during the billing period is

$$P = \sum F_i P_s$$

The content creator′s token reward is

$$R_s = RP \times PP \times \frac{P_s}{P}$$

Among them, RP is the total number of token pool tokens, and PP is assigned to the creators.

Note: In the design of the dissemination chain, the content of posting and commenting have exactly the same community contribution.

(2) content forwarder:

The registered users in the terminal can share the valuable content to other platforms (WeChat, QQ, Weibo, Facebook, etc.) through the forwarding function in the chain's official APP. When the system determines that it is a valid forwarding, the system will Reward NEWT. The content forwarder's reward rules are described as follows:

The effective forwarding contribution value of a single content is defined as:

$$C_i = P_i * F_j$$

Where P_i is the user's forwarding level, F_j is the content user's creator level

The total effective contribution value of all content is defined as:

$$C = \sum C_i$$

The NEWT rewards that users receive for effective forwarding of content are:

$$R_i = \sum_{\varepsilon}\left(\frac{C_i}{C} * RP * PF\right)$$

Among them, RP is the total number of token pool tokens, and PF is assigned to the creators. ε is valid forwarding for the user's cycle.

Note: The propagation chain ecology encourages the forwarding of content generated by high-level content creators. The higher the corresponding level of creators for effective forwarding content, the more NEWT incentives the content forwarder will receive.

(3) End user reading

The registered users in the official APP side of the dissemination chain can obtain the tokens of the system rewards by reading the content they are interested in, that is, the registered users can read the token rewards. The system will reward NEWT when the reading behavior of registered users in the terminal is determined to be a valid reading by the system.

The value of a single valid reading contribution for users registered in the terminal is defined as:

$$C_i = R_i * F_j$$

Where R_i is the user's reading level, F_j is the content user's creator level

The effective total contribution value of all readers during the billing period is defined as:

$$C = \sum C_i$$

The NEWT award for a single user during the billing period is:

$$R_i = \sum_{\varepsilon}\left(\frac{C_i}{C} * RP * PR\right)$$

Among them, RP is the total number of token pools for the reward pool, and PR is the ratio for readers. ε is valid readings for the user cycle.

Note: The propagation chain ecology encourages the reading of content generated by high-level content creators, and the higher the corresponding level of creators for effective reading content, the more NEWT incentives the content reader will receive.

(4) New User Registration

In order to allow the newly registered users to obtain a relatively good user experience, the system gives each newly registered valid user 20 NEWT awards. Of course, new users must pass valid content verification to be recognized as real users to obtain these rewards.

The NEWT of these incentives comes from the part of the marketing chain reserved after pre-excavation. The award deadline and the number of awards are determined by the Communication Chain Management Foundation.

(7) Mentoring Relationship Rewards

In order to promote and build the community ecosystem of the dissemination chain, the system will award user tokens for new user registration. For example, when user A recommends user B to register, A is the master of B, and user A obtains the system's token reward because of user B's registration.

4.3.3 Valid Content Certification Mechanism

The community ecosystem adopts the original PoVC (Proof of Valid Cotent) to use big data analysis methods to mathematically model user postings, user reviews, etc., and filter out valueless content data to form NEWS CHAIN (propagation chain). Community network content producers and content consumers have a mutually beneficial sharing economy model.

For the vector space model, the similarity calculation approach is to calculate the cosine similarity between vectors. The similarity between users and documents can be defined as follows:

$$Sim(u,d) = \frac{u \cdot d}{\|u\| \cdot \|d\|}$$

Specifically, for a content certification system that uses a probabilistic model, it is defined as:

$$\omega_i = \log\left[\frac{r_i(N - R - n_i + r_i)}{(R - r_i)(n_i - r_i)}\right]$$

Where ω_i is the weight of the item t_i, N is the number of filtered texts, $P(t)r$ is the number of related texts that the user has identified, n_i is the number of texts that contain items t_i, and r_i is the number of texts that contain items t_i in the related text.

For the vector space model, the following feedback model is used:

$$P_{k+1} = P_k + \alpha \sum_{k=1}^{n_1} \frac{R_k}{n_1} + \beta \sum_{k=1}^{n_2} \frac{N_k}{n_2}$$

Among them, P_{k+1} it is a new template, P_k an old template, R_k a vector representation of related text, N_k a vector representation of unrelated text, n_1 a related text number, n_2 an unrelated text number, α, β a weighting factor, and the contribution rate of positive and negative feedback.

At the same time, the content of the dissemination chain was introduced into the community review system to ensure the spread of popular values. At the same time, in order to meet the requirements of relevant national and local laws and regulations, the dissemination chain adopts the big data analysis engine + manual audit dual review system to ensure the validity and legitimacy of the dissemination chain data.

4.3.4 Effective Traffic Certification Mechanism

The community ecosystem uses the original PoVT (Proof of Valid Traffic) to use the artificial intelligence traffic analysis platform to perform traffic cleaning and filtering. On the one hand, it can save the bandwidth resources of the entire community network, and at the same time deliver targeted advertisements for Promote strong development of the community to provide strong support.

The propagation chain network is dynamically changing, and the user's behavior in the network will change due to the changing environment of the network. The malicious user's network behavior in the network will be more and more away from the normal user's behavior over time. Therefore, by building a model, we make a weighted analysis of the user's behavior on the day and the day before, which makes the historical data of user behavior become the key factor that determines whether the traffic is abnormal or not.

$$P(t) = \alpha[D(t) - P(t-1)] + P(t-1)$$

Among them, the user $P(t)$ is the model analysis value of the time t, the observation value $D(t)$ at the time t, and the weighted constant α, so as to control the proportion of the data in the model.

The outgoing and incoming rates of normal user traffic have the following relationships and characteristics:

$$R_{out} \approx R_{in} \; V_{out} \approx V_{in} \approx 0$$

The malicious user host network port data flow rate has the following characteristics:

$$R_{out} \ll R_{in} \; 0 \approx V_{out} \approx V_{in} \; IN \; V$$

Wherein, R_{in} / R_{out} is the rate at which the port information flows, V_{in} / V_{out} is the rate of change of the rate per unit time, and V is a constant used for threshold determination.

At the same time, each user is assigned a fixed bandwidth, and the bandwidth obtained by different user levels will be different. The user's behavior, including like, click, send articles, write comments, forward articles, and read will consume a certain amount of bandwidth, thus avoiding the plight of the infinite loop of the machine. At the same time, each user's bandwidth is being consumed at the same time, it will continue to recover over time, thus ensuring that normal users can like, click, send articles, write comments, forward articles and other operations, improve the user Experience.

4.3.5 Anti-cheating mechanism

The anti-cheating mechanism is used to prevent brushing. Specifically, the anti-cheating mechanism is mainly used to prevent malicious users from illegally acquiring tokens after simulating user operations through the robot. Once the Spread

Chain Foundation determines that there is a malicious user who commits cheating, it will permanently cancel the account and withdraw NEWT from its account.

(1) Mobile phone number registration

Each official communication chain APP needs to be registered through a valid phone number. That is, the user must fill in a valid phone number when new registration, and can correctly receive and send the authentication code of the mobile phone sent by the system to become a part of the community.

(2) Weighted real-time evaluation system

The weights of the ecological participants in the dissemination chain are important value attributes of the users, which are closely related to the system rewards generated by users' posts, comments, and likes. The system will adjust its weight according to the user's different behaviors in real time so that system participants can receive corresponding community rewards in real time.

(3) FACE ID verification

The propagation chain will introduce the face verification mechanism. Once suspicious cheating is found, the client will automatically pop up the face verification interface and ask the user to perform FACE ID verification.

5 Products and Operations

The APP and website of the participating parties in the dissemination chain have integrated a variety of data content (information data, novels, short videos, shared WIFI, etc.), and will gradually integrate other types of data (transaction data, product pricing, event rebates). Etc) to build the communication chain as a benchmark for global content data traffic.

In order to achieve the above objectives, the communication chain needs very professional landing products, landing services, and landing operations. These products and their services consist of the following components:

5.1 Communication Chain Autonomous Community

The communications chain community is maintained by the Communications Chain Foundation and consists of several components. The dissemination chain strives to become the best autonomous community in the blockchain system:

5.1.1 Foundation Operation

NEWT is the only approved official value transmission medium for the dissemination chain, and all distribution, issuance, destruction and repurchase of NEWT are under the responsibility of the Communication Chain Management Foundation.

The Communication Chain Foundation is registered as a non-profit organization in Singapore and is mainly responsible for the development of the ecological community in the chain of communication. At the same time, under the public concern and supervision of the entire community, as a trusted third party, it provides reasonable and impartial advice for the long-term development of the NEWS CHAIN community.

In addition, the Communication Chain Foundation, as a public interest organization, pays attention to poverty alleviation, public utilities, and disaster relief in the world, and actively participates in the maintenance and development of the global public trust system. Activities of the Foundation, and so will the agenda at HTTP: // ne.wsOn the release.

Chains of transmission or foundations relevant regulatory bodies to Singapore, and HTTP: // ne.wsOn schedule to publish its financial audit.

5.1.2 Open Source Code

Chain of transmission codes are all hosted on GitHub, specifically address: HTTPS: // github.com/news-chain

5.1.3 Websites and Community Forums

The official website of the chain of transmission is: HTTP: // ne.ws/, Community forum is under construction, so stay tuned.

5.1.4 Test APP

After nearly two years of development, we deployed the test chain and provided downloads of the official APP. The specific download addresses are as follows:

Https:// www.pgyer.com/pmku (IOS Chinese)

Https:// www.pgyer.com/7pgY(IOS English Version)

https://www.pgyer.com/pxnX (Android Chinese version)

https://www.pgyer.com/4tGh (Android English)

Among them, after the IOS download and installation, you need to add credit devices in the settings.

5.2 Asset and Trade Value Maintenance

The dissemination chain supports small asset transactions. The communication chain believes that this small amount of assets comes from the behavior and attention of each independent individual to the outside world in the process of communication and communication. The NEWT of the communication chain is both a currency expression of this transmission value.

NEWT is based on DPOS. In order to better maintain the value of NEWT and to reinforce the asset properties in the process of content dissemination, the dissemination chain sets a mechanism for anchoring the POW computing power currency ETH through operation.

The Communication Chain Foundation will be responsible for the operation of this mechanism.

5.2.1 Asset Purchase and Anchorage

The specific asset purchase and anchoring process is as follows:

1. The Spread Chain Foundation will take part in NEWT's cooperation with major ETH mines.

2. Mine users of these mines use legal currency to purchase ETH calculations. The mining site selected a part of the miners or ETH users who intend to cooperate.

3. When the mine is settled with these users, it does not use ETH for final settlement, but uses NEWT for settlement. These NEWTs are provided by the Spread Chain Foundation in the market by trading ETH currency into NEWT.

4. In order to ensure that this mechanism is operational, the Spread Chain Foundation will, if necessary, take part in or hold a share of the Ethereum Mine to force the computational price relationship between ETH and NEWT.

5.2.2 Market equilibrium of transaction prices

The price of NEWT as a TOKEN is determined by the market. The participation of all parties in the chain of communication to buy and sell NEWT on exchanges will eventually result in a market equilibrium in which we create a near-perfect Nash equilibrium for all deliverables and their services.

5.2.3 Encourage More People to Use NEWT for Trading

The Spread Chain Foundation will help more third party developers or asset issuers use NEWT for asset distribution and trading.

For example, the Communications Chain Foundation is helping some users of vending machines use NEWT to recharge and purchase goods in Shenzhen, China; it is helping some micro- merchants in Chengdu, China to replace their points system with a more liquid NEWT.

In short, we believe that content and content-appropriate goods and services can be traded using NEWT, and NEWT as a type of dissemination of digital currency will be more widely accepted by the general public.

5.3 Official APP: Product Introduction

Communication chain official app (http:// ne.ws It is focused on providing mobile end-users with a secure and efficient platform for content-based advertising value based on Graphene Engine, enabling content producers, content communicators and community builders to receive reasonable incentives and rewards. Advertising investors can also Realize accurate marketing on the platform.

At the same time, there is a built-in wallet function. Users can directly initiate digital currency transactions and transfers based on the APP in the APP.

The following is an example of the function of the APP part:
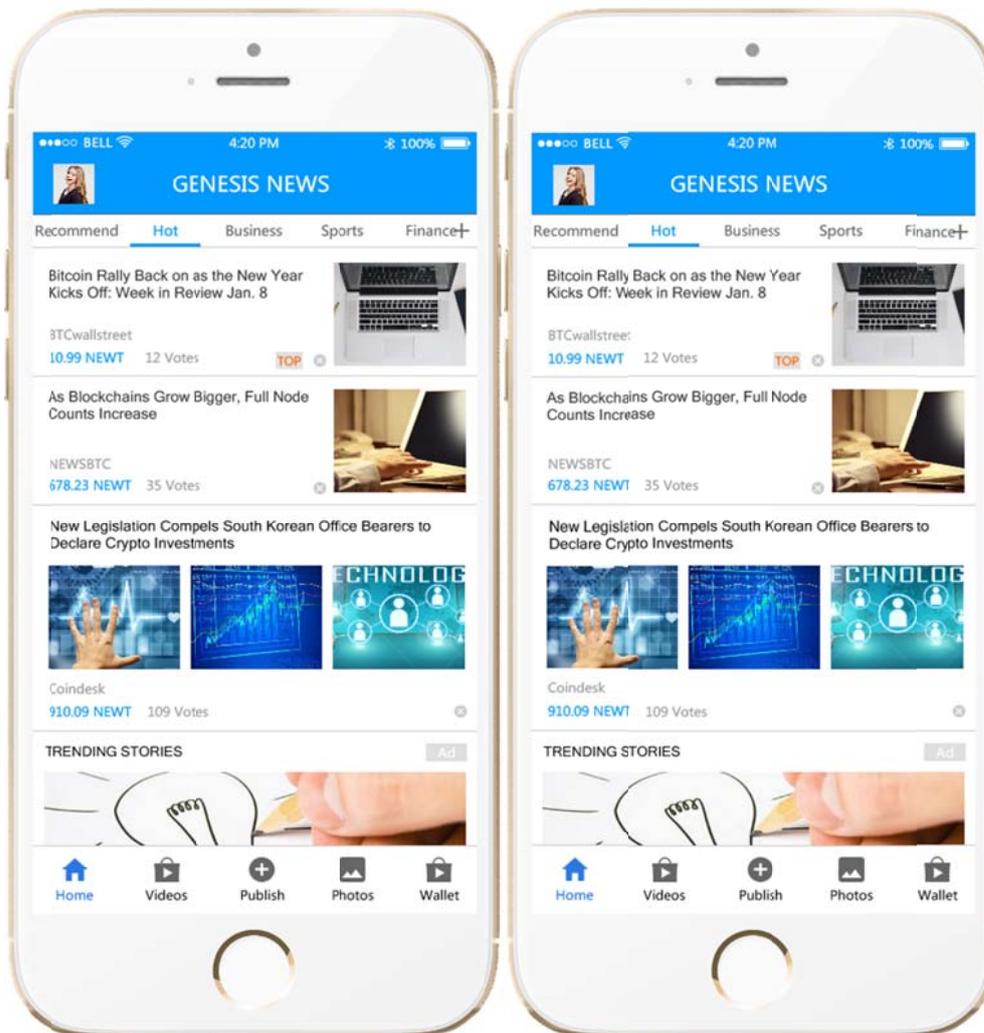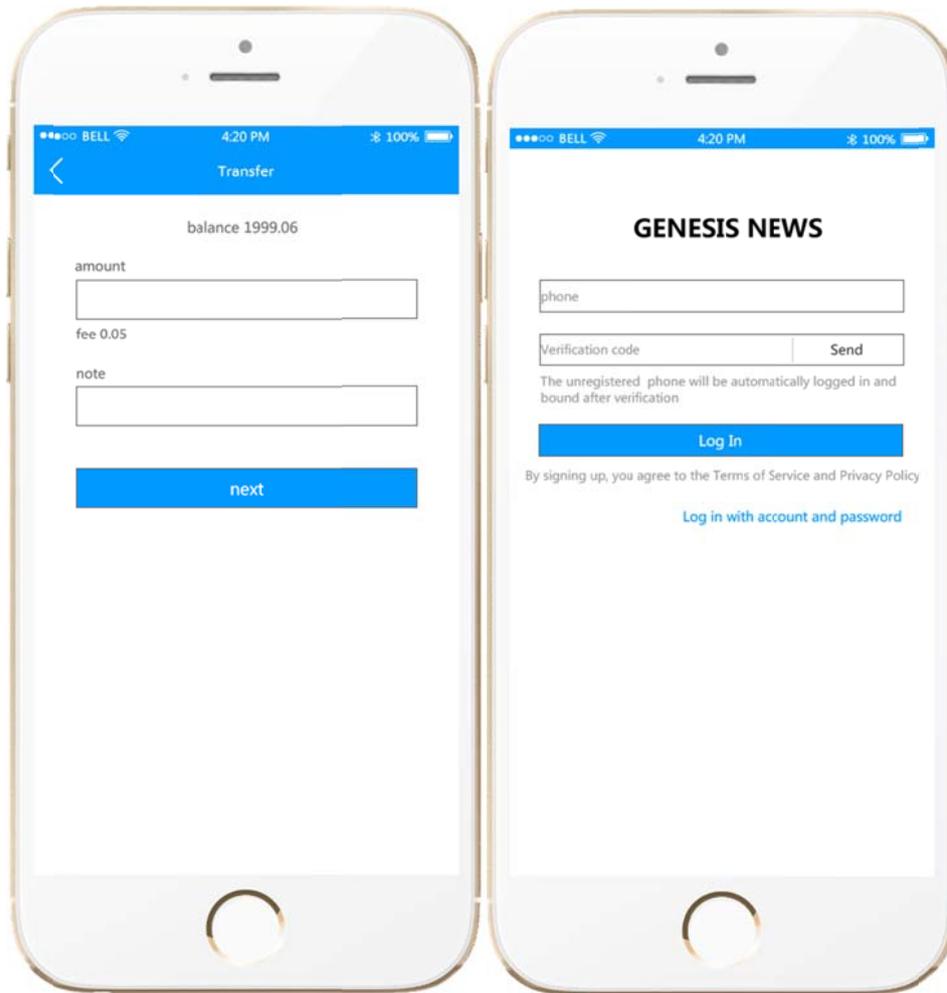
5.4 Pattern Novel Product Introduction

The propagation chain supports paid reading of novels by paying NEWT. After the release of the official APP of the dissemination chain, a group of Internet technicians obsessed with original novels launched a project of the novel.

The novel's products attempt to solve the problem that the novel's piracy causes the loss of the author's income. At the same time, it also solved various problems such as the pricing of the novel market, the author's early investment support, and the neutralization of novel income.

Novels based on the propagation chain will become a new beginning for the world's long content authors to open up new business models. The following is a conceptual diagram of the APP:

剑王朝
连载中
14小时前 第八卷：长生 第一百五十二章 评价

大主宰
连载中
21小时前 第1438章 武祖斗尸帝

雪鹰领主
连载中
13小时前 第1032章 东伯雪鹰的震惊

灵域
连载中
4个月前 第一千八百四十一章 开启新时代！

我真是大明星
连载中
14小时前 第1364章 『年度最受欢迎明星奖场

书架　排行　分类　书架　排行　分类

5.5 51WIFI Product Introduction

51WIFI is a product that uses the propagation chain to subvert the traditional shared WIFI market. Its product logic is very simple: users share WIFI to get NEWT, users need to pay NEWT for using other people's WIFI.

The communication chain believes that the WIFI password is a valuable content that can be disseminated. The third-party developers can use the propagation chain to develop a mobile APP to solve various problems encountered in the WIFI sharing market.

Similarly, other content, products, or services that have a value for dissemination can use NEWS CHAIN for third-party development, so as to jointly create a beautiful new world that is decentralized.

5.6 Traffic Access to the Blockchain Industry

The distribution of content and services as the most frequently used and most widely used application on the mobile end has become a new entry point for mobiles and a battleground for the military. There are several APPs competing in the traditional centralization application. Nowadays, headlines, Tencent News, Netease News. The application of decentralization based on blockchain technology has not yet been applied to explosive funds. We use content and service as the entry point, and combined with blockchain technology, it will certainly occupy the traffic height of the blockchain industry. Become an explosive entry application for traffic entry level.

We expect that in the two months following the official launch of the communication chain, the official APP of the dissemination chain will receive more than 1 million users; within one year after the official launch of the communication chain, the relevant applications of the entire communication chain will receive 10 million users and thus become global The largest number of users in the blockchain.

6 Investment Value and Market

Competition

6.1 Investment Value

The blockchain will surely lead the paradigmatic revolution in economics. NEWS CHAIN (community chain), through the combination of blockchain and content ecology, finds industry pain points, innovative financial models, and brings investors great returns.

(1) The content and service distribution market is a huge market. It is a blockchain application with a high frequency and a wide audience. Today's headline market value of 14 billion US dollars

(2) Using blockchain for value reconstruction, thoroughly subverting the content market, and establishing an ecosystem that participants can benefit from

(3) Effective content and effective traffic are transformed into digital assets for trading by winding up. This is a blockchain application with extremely strong floor-to-floor performance.

6.2 Competitors

6.2.1 Today's headlines

Today′s headline is China′s most active content distribution application. The company′s valuation has exceeded US$10 billion. However, today′s headline is a typical centralized application. All users′ data is in the hands of their company.

Today′s headline uses this data as The chips earn profits from advertisers. The end result is that users generate traffic and users browse advertisements. However, users do not receive any revenue. Advertisers invest in costs, but they can not avoid data fraud, traffic fraud and other drawbacks.

NEWS CHAIN (propaganda chain) makes use of the characteristics of blockchains to realize the return of benefits to users who create value for traffic. Advertisers can directly deliver advertisements to users without paying fees to any intermediaries. The benefits of watching advertisements are directly returned. Give audiences to ads while avoiding data fraud and traffic fraud.

6.2.2 Steemit

Steemit is a content community based on blockchain technology that can provide benefits to users and content creators. Its tokens are rated as B by Weiss, a well-known authoritative rating agency (only 5 digital currencies have this rating). As of the end of this article, Steemit's tokens have been worth $6.51. However, Steemit only provides a web version, and there is no smart recommendation algorithm to actively push personalized content for users. As a result, all content is mixed together. Users need to spend a lot of time searching for content that they are interested in, and Steemit does not have an ad serving system. Cannot fully realize the value of its platform.

NEWS CHAIN (Propagation Chain), as a mobile APP, naturally has a larger user group, and uses its own AI algorithm to actively push content that is of interest to users, saving users a lot of time. In addition, the advertising system provides advertisers with high-quality distribution channels and promotes the circulation of NEWT within the system to make it more valuable.

6.3 Competitive Strategy from Media to Social Media

As mentioned earlier, the communication chain not only stores content, users, and advertisements, but also precipitates user relationships, which provides the possibility for the development of a decentralized social network.

Users publish content, post comments, reply comments, like points in the propagation chain ecology, and can follow their favorite authors, thereby forming an interaction, and ultimately precipitated as an author-fan relationship.

6.4 Roadmap

2016.07	2016.08	2017.11
前期调研，组建团队	项目正式启动	传播链测试版本发布

2018.10	2018.04	2018.03
累计注册用户达到100W	产品进入推广期	官方APP《有料》上线

7 Private Equity Solutions

A total of 10 billion NEWT (News Token) was issued in the first phase of NEWS CHAIN (Spreading Chain). The entire token is issued based on the ERC20 standard of the Taifang platform. The specific allocation scheme is as follows:

Table 1: Token Distribution Plan

Distribution ratio

Ratio	note
20%	Private offering
35%	Ecological mining consensus incentive
15%	Traffic Exchange Market Fund
10%	Project development and operation team
10%	Early investors
10%	Communication Chain Foundation

7.1 Private Offering

The private placement issuance token is mainly used for NEWS CHAIN (propaganda chain) corresponding platform and community ecological construction, project operations and so on.

This private equity accepts ETH, and the conversion ratio is 1ETH=50000 NEWT (the conversion ratio is determined based on real-time quotes).

7.2 Communication Chain Foundation

The tokens reserved by the Spread Chain Foundation are mainly used for the long-term operation of the foundation and the ecological management of the dissemination chain. It is the only official non-profit organization for the approval and management of the dissemination chain. All token issuance and rewards are made by the dissemination chain funds. It will be formulated and issued.

7.3 Ecological Mining Consensus Incentives

NEWS CHAIN (Communication Chain) will allocate 35% NEWT (News Token) as a community eco-awards fund to reward content producers, communicators, and content contributors as well as the entire ecosystem participation parties.

The reward distribution of content producers, content communicators, and community builders, ecological participants will receive corresponding token rewards based on the PoP (Proof of Participation) index. The system will issue a corresponding amount of tokens to the eco-allot distribution pool every day, and tokens will be settled once every 12 hours.

The 3.5 billion tokens issued this time will be released in seven years when the main chain goes online, and 500 million tokens will be put into the reward pool each year.

7.4 Project Development and Operation Team

The NEWS CHAIN (Spreading Chain) development and operations team provided strong product and technical support for the incubation and landing of the project; early investors in the project paid great attention to the landing of NEWS CHAIN (Communication Chain) and the construction of the community. As a result, we give NEWT (News Token) a reasonable proportion of project development teams and early project investors as rewards and rewards.

The team and the early supporters of the project have a total of 1 billion tokens. These tokens will be locked for 2 years and then unlocked at a rate of 50% per year. The lock time will be based on the Token Sale end date.

7.5 Traffic Swap Market Fund

The dissemination chain places the project landing and promotion in the most important position. Before and after the launch of the main chain, we will promote the dissemination chain globally. The entire promotion fund comes from the 15% of NEWT left. At the same time, the dissemination chain will initiate the exchange of tokens and advertisements with other major traffic parties, and strive to become the most widely used blockchain application in the first half of 2018.

7.6 Investment Institutions

8 Risk Warning

8.1 Systematic Risk

Systemic risks mainly include global factors that cause project assets to be affected. For example, although China actively encourages the development of blockchains, it regards ICOs as illegal financing behavior. Therefore, there is a possibility that project investors′ assets may be lost due to policy reasons. At the same time, valuation of digital currency market projects fluctuates greatly, resulting in huge investment risks. Investors are advised to invest rationally.

8.2 Risk of regulatory oversight

The sound development of the financial market is inseparable from the designation and improvement of the regulatory system. However, due to the rapid development of the market, the regulatory system related to the blockchain has not yet been formulated or has not met the requirements of the market. Therefore, the digital currency exchange market may be There is a risk of skyrocketing plunge or banker manipulation. Although experts, scholars, news media, etc., from time to time make recommendations for careful participation, there is no clear regulatory system in place, so this risk cannot be avoided.

8.3 Team Risk

Currently, there are many projects and teams in the blockchain field, and the competition is very fierce. Therefore, there are strong market competition pressures in the dissemination chain. The project can achieve market recognition as it wishes, not only with the team's own capabilities, but also with vicious competition from other similar projects in the market. At the same time, the team project personnel are senior practitioners in the blockchain field and software information industry, but it is not ruled out that the project core personnel leave the team and cause some negative impact on the communication chain.

8.4 Project Risk

The blockchain is essentially an art of multidisciplinary, such as cryptography, computer science, operations research, etc. Therefore, the development of disciplines, especially the development of quantum computers, will have a huge impact on the existing cryptographic systems, and therefore will also be Blockchain projects bring about potential security risks; at the same time, there are software bugs and BUGs inherent in the software industry. The project team will make up for them by updating the patch from time to time, but there is no guarantee that the project does not have any bugs and bugs. .

8.5 Security Risk

In the current digital currency exchange market, users sometimes do not save the private key or because other human factors cause the digital currency to be stolen by hackers. Although the project team protects the user's digital assets through various methods, it cannot be avoided. Digital assets were stolen due to improper user key storage. At the same time, due to the decentralized nature of digital assets, the ability to retrieve passwords cannot be provided, and the attackers cannot be traced through traditional methods.

8.6 Other risks

Other unpredictable risks.

9 Team Introduction

10 Disclaimer

(1) This document is only for the introduction of project incubation. The content of the document is for reference only and does not constitute any trading proposal.

(2) The content of this document is not to be construed as a forced participation in the ICO, and any action related to this White Paper is not considered as participation in the ICO.

(3) The investment project represents that the participant already has the capacity for civil conduct, the contract with the dissemination chain is real and effective, and the parties sign the contract on the principle of voluntariness.

(4) The dissemination chain will do its utmost to ensure that the project design content is implemented and implemented. However, it is not excluded that the relevant contents of the White Paper may be modified due to technical innovation or other force majeure. Project participants need to obtain the latest white papers in time

through the official website and adjust their investment strategies according to the latest white paper.

(5) News Token, as the official token of the communication chain community, is an important medium for the circulation of community ecology. It is not an investment product nor any kind of currency, securities, or equity.

(6) The dissemination chain platform complies with any regulations and industry regulations that are conducive to the healthy development of the ICO and blockchain industries. Participants also need to fully accept and observe the corresponding inspections.