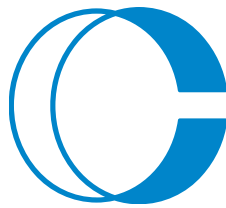


PRESSone

A Blockchain-based digital content
trading and distribution network



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info@press.one

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Synopsis

PRESSone's¹ aim is to build a Blockchain-based digital content trading and distribution network.

- Taking advantage of digital signature info and transaction data stored unchangeably on-chain, highly customizable light contracts, and digital currency and distributed storage networks, PRESSone expects to drive the revolution of the content trading model and rebuild the production, authorization, distribution, and consumption of the digital content industry.
- It will reshape the roles and relationships between content producers/licensors and consumers/licensees by exploring and leveraging new trust relationships, organizational structures, and models of driving participants' motivation.
- It will build an application layer protocol (the PRS protocol) that spans multiple consensus systems by combining resources including multiple public chains, decentralized storage or centralized cloud storage. The decentralized open architecture allows everyone to create their own DApps and content based on our data and our infrastructure to explore innovative business models in a transparent, efficient, and equal way.

The value proposition of PRESSone is as follows:

- Solve the problem of copyright ownership confirmation and declaration for content producers, by taking advantage of storing the identity proof of the author and the digital signature of the content they published as unchangeable data on chain.
- Create and settle transactions using smart contracts that can be coded and executed automatically. Give back the pricing power to content producers (licensors), while lowering the cost of content trading and licensing for consumers (licensees).

¹ ("PRS project", "PRS network", "PRS team", "we", "the project team")

- Offer flexible and extensible contract templates that can drive the emergence of innovative business models as well as new business opportunities in the digital content industry. For example, general users without sufficient content production ability can participate in the process of value distribution by participating in the spread, resale, adaptation, mining and compiling of others' content, and share income with the original author. This creates a win-win environment for digital content trading and distribution, and promotes the transmission of creativity.

Background & Problems

The internet we have been using is constructed based on, essentially, digital content.

When we use the Internet, we are either creating or consuming digital content: reading/writing articles, editing/watching videos, and “liking” our friend’s holiday photos. We are the creators and consumers of digital content.

Regarding openness, equality and facilitating information flow, the Internet has played positive roles since the beginning. However, with the soaring aggregation of capital, data, and traffic, the Internet is moving farther and farther from its original vision². Nowadays, there are primarily two business models of the Internet: the dominant “free+advertising” model, and the “paywall” model, such as e-commerce, subscription and Pay-As-You-Use, which has been adopted by a minority.

The “free+advertising” model, which the Internet had been proud of for generating significant scale effect, is IN NO WAY free for the general user. In fact, it has cost them so much. Data generated from user behaviour has been controlled by commercial corporations, becoming the vital commodity and raw material resource of Internet giants, and being used to “extract an inordinate share of value” and “control more and acquire more power”³. During the process, the closing off and concentration of power will be further aggravated, and it will also lead to hidden and continuous infringement of the values of personal privacy and autonomy.

² Brooker, K.(2018, August). *'I was devastated': Tim Berners-Lee, the man who created the World Wide Web, has some regrets*. Retrieved from <https://www.vanityfair.com/news/2018/07/the-man-who-created-the-world-wide-web-has-some-regrets>

³ Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: how the technology behind bitcoin is changing money, business, and the world*. Penguin.

Commercial and economic activities based on the paywall model are also facing problems caused by this closing off and excessive concentration. Regarding digital content, the centralization of web traffic, the monopolization of distribution channels, and exorbitant transaction costs are forcing creators to “assign their intellectual property rights to what essentially are large rights management operations” , and gradually lose control over their own creation and its property rights⁴. Meanwhile, the rewards obtained are not sufficiently reasonable and fair.

Why do the creators have to give up their “right of control”? Why are trading activities and economic value transfer related to digital content still subject to many limitations and difficulties, while the creation and acquisition of digital content have become easier?

Multiple reasons cause the current situation:

- Centralized organizations such as publishing houses, major content platforms, and online content retailers have been dominating the method of sale, place of purchase, and determination of price. Creators have little influence on decisions regarding sales to protect their own benefits.
- Other than the centralized channels, most content and licensing on the Internet have no marked price. You have to find a way to contact the copyright owner for the price and payment method for licensing or purchasing. And numerous efforts and a huge amount of time need to be put into signing, executing, and verifying the contracts for all the parties involved.
- The certification, appeal, and arbitration of copyright rely on an authoritative third-party intermediary. It is cumbersome for a single individual to manage, license, or trade his or her own creation’s copyright.
- The difficulties of tracing the history of copyright licensing has made it difficult for licensees to know who to ask for approval to use the content. Especially after content has been re-posted, created or adapted, it is harder for people to judge “who should I contact to request or purchase the license authorization?”.

The monopoly and closed situation exist during the process of content ownership confirmation and content distribution. This has not only caused content owners to lose

⁴ Tapscott, D., & Tapscott, A. (2016). Blockchain revolution: how the technology behind bitcoin is changing money, business, and the world. Penguin.

control and revenue, but also suppressed the potential growth of the content transaction market, as the development of various profitable business approaches has been inhibited.

For instance, nowadays, due to the middlemen's monopoly, there is a market trend that small transactions of content are more difficult to achieve than large transactions, because platform vendors have to spend a lot of time and effort in the process of identifying copyright and signing agency agreements with authors. With the same cost, it is reasonable for vendors to depend on selling content with higher pricing to gain more profit. This leads to the situation that finding a sales channel for a short article is much harder than for a book, or selling a 20-second video clip is more difficult than selling a full-length movie. But actually, the small transactions of content could be in higher demand and be used in higher frequency. If we can fulfill the needs of supply and demand for both parties in some faster, easier, and cheaper way, the resultant cumulative effect would be magnificent.

For another example, it is difficult for creators to be able to determine the pricing and method of trading flexibly according to their own requirements when they sell or distribute their creation through an intermediary, such as:

- Supporting split pricing: allowing a customer to only pay for a single chapter of a book or a few bars in a song.
- Trading certain types of content for which it is difficult to determine usage and price, e.g., a piece of code or a set of typefaces.
- Allowing low-frequency or non-professional creators to have a low-maintenance model for selling content (e.g., amateur photographers or illustrators).
- ...

Once the needs for micro-transactions and flexible transactions are satisfied, content creators will be more willing to participate, there will be more purchasing options for consumers to choose from, and more and more content creators will be driven by the opportunity for higher income.

If the barriers of copyright licensing and trading can be lowered, copyright owners and licensees will share revenue reasonably based their effort and contribution in a transparent and flexible way, thereby decreasing piracy and infringement behaviours.

“Co-creating with consumers is usually a more sustainable business model than suing them.”⁵

In conclusion, exorbitant transaction costs and monopolistic distribution channels have been damaging the growth of the ecosystem of content creation, suppressing diversity and the innovation of new business models. The industry of digital content needs to redefine and rebuild new ways of content production, distribution, consumption, and rights authorization. This will enable creators to have better incentives and rewards, and enable creativity to be transmitted more effectively.

Opportunities and Solutions

Emerging blockchain technologies are expected to “revolutionize industry and commerce and drive economic change on a global scale”⁶, and also open a whole new world of opportunities for solving the aforementioned problems. Blockchain “will not create a new standard for how artists get compensated. Instead, it will liberate them to choose and customize an infinite array of solutions that work for their specific needs and beliefs”⁵. And it will “transfer economic value with lower cost”⁷ and achieve flexible income allocation.

First of all, the characteristics of “security, immutability, and transparency” of the blockchain, and its “ability to cut out the middleman”⁶ is expected to bring trustworthy and transparent solutions to the digital content industry. Smart contracts use code to clearly define both parties’ accountability and obligation and how is the value allocated. All the contract execution records are saved in the blockchain without being able to be tampered with or retrieved. The transfer process of copyright’s economic value is transparent to all the stakeholders, which guarantees the safety and credibility of transactions and protects all the participants’ access to fair value allocation based on the promises in the contract. Meanwhile, malicious breaches of contract are more easily discovered, and it is easier to collect the relevant evidence.

⁵ Tapscott, D., & Tapscott, A. (2016). Blockchain revolution: how the technology behind bitcoin is changing money, business, and the world. Penguin.

⁶ Underwood, S. (2016). Blockchain beyond bitcoin. *Communications of the ACM*, 59(11), 15-17.

⁷ Imada, Takatoshi. (2017). ブロックチェーン革命 分散自律型社会の出現. 日本経済新聞出版社.

Secondly, smart contracts and Ricardian Contracts are used to “satisfy common contractual conditions, minimize exceptions... and the need for trusted intermediaries”.⁸ Content creators (licensors) can tie a PRS contract to their creations. Consumers (licensees) can execute the contract to automatically calculate for the price to pay and settle the payment. Meanwhile, saving the contract on the blockchain would make it effortless to trace the existence of the contract related to a certain piece of content and verify if the contract has been executed correctly. This would remarkably lower the cost of agreement signing and execution in traditional way, thus improve the efficiency of content trading and distribution.

Moreover, the core fundamental of blockchain is a distributed ledger. Computer code could be stored and executed on the chain. Code automatically executes when certain conditions have been met, and the distributed ledger records all transactions forever. The transaction records on the blockchain are secured through cryptography and programming. It's so difficult to build a low-cost, high-efficiency and decentralization automation transactions system on fiat currencies that are not programmable money.⁹

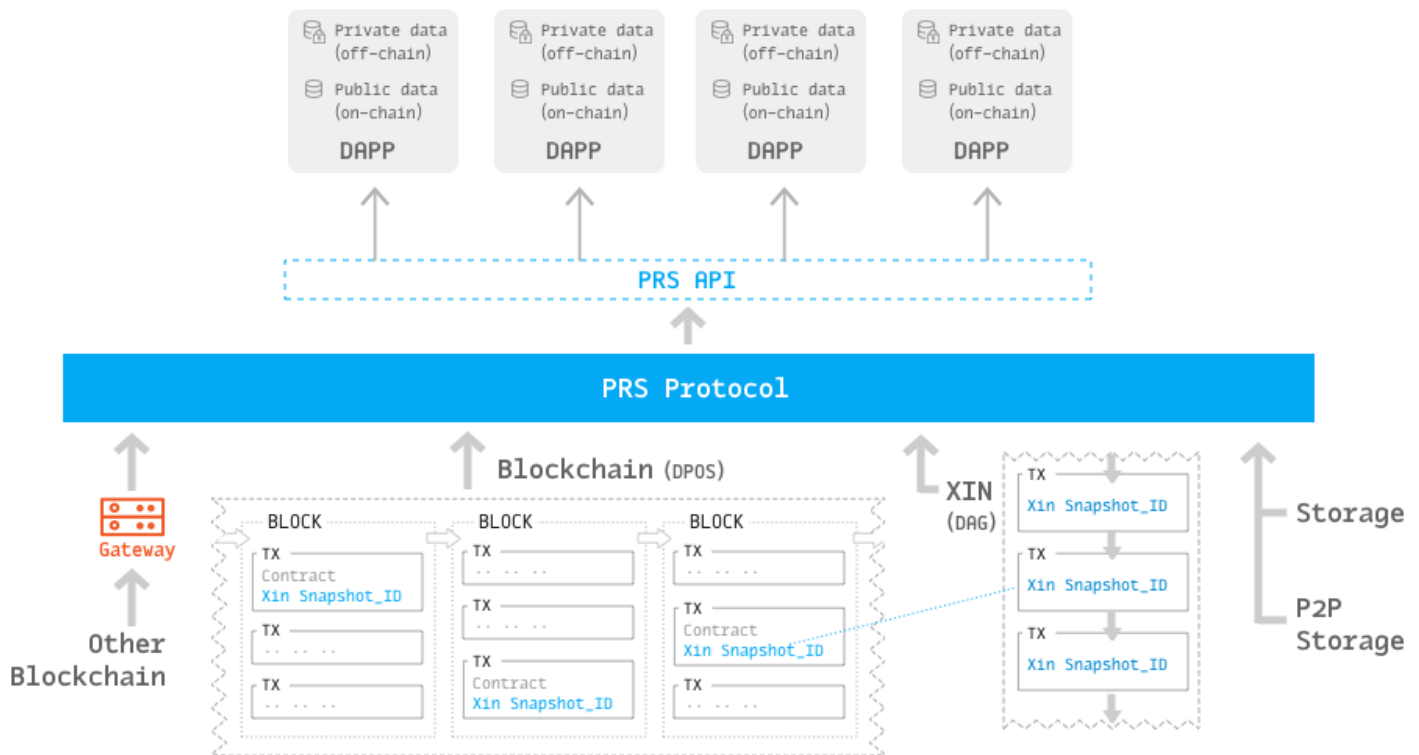
Based on the consensus and trust mechanism supported by blockchains, coupled with the application of smart contracts and cryptocurrency, content trading can be disintermediated as never before, making possible “small transactions” and “flexible transactions” that were previously difficult to achieve. Because of the reshaping of the revenue share model between content producers and consumers, licensors and licensees will be more inclined to cooperate in a mutually beneficial way to achieve value sharing and amplification. The motive of malicious behaviours such as piracy and infringement will be lower with the increased risk of doing evil. In the long run, more positive and constructive changes will emerge, pushing forward innovation in content creation models and business models, and finally facilitating the booming industry of digital content.

⁸ Szabo, N. (1997). *The idea of smart contracts*. Retrieved from http://szabo.best.vwh.net/smart_contracts_idea.html. [https://perma.cc/V6AZ-7V8W]

⁹ Swan, M. (2015). *Blockchain: Blueprint for a new economy*. "O'Reilly Media, Inc.".

Technology & Architecture

Architecture Design



The architecture of PRS protocol

PRS is an application layer protocol built on top of several different consensus mechanisms. The main purpose of the PRS network is to build a decentralized digital content distribution system. The PRS protocol provides developers with the ability to create their own decentralized apps that connect various technologies, for example, blockchains, consensus, P2P and cloud storage. Dapps can keep private data off-chain, and store their public data with the PRS network. Everyone in the ecosystem will benefit from the shared data. Users and developers can write their business logic and verify transactions by PRSC DSL to ensure reliability of these transactions.

The PRS network connects blockchains with different consensus mechanisms, among which the major components of the system are the MIXIN network¹⁰ (ABFT consensus DAG) and the PRS chain (BFT-DPoS). The system uses the MIXIN network as a decentralized ledger to process all asset transactions, and the PRS chain takes responsibility for verifying smart contracts and storing transaction-related metadata.

Content storage is not a default service of the PRS network, so any storage service, including centralized cloud and P2P services, can be used to provide content to end users. On some occasions, even mesh networks and offline storage can become content providers.

Other blockchains or even centralized banks can also integrate with the PRS network through gateways.

DApps

In the PRS framework, a DApp directly interacts with end users. Multiple DApps can coordinate to serve requests from users. For examples, the website and mobile app for PRESS.one are DApps.

Each DApp may contain both private and public data. The public data is stored on blockchain and compatible with the PRS data protocol. On the other hand, private data such as sensitive and personal information could be stored off-chain. The off-chain private data needed by DApps, however, is not appropriate for sharing with others or storing on-chain, and should therefore be kept secure by DApp developers and maintainers.

API

Dapp developers needn't to implement the protocol from the ground up; they can use the PRESSone API service to interact with nodes. APIs allow us to hide the complexity of low-level blockchain systems and expose the functionality in a friendly way.

¹⁰ Feng, X. (2018, July 01). *Mixin Network Draft*. Retrieved from <https://mixin.one/assets/Mixin-Draft-2018-07-01.pdf>

Content and storage

Hashes of media and text files are stored in the blockchain instead of original copies of files. The PRS protocol uses storage location descriptors to define the actual locations of files and resources.

This flexible architecture allows users to adopt various storage methods, including both centralized cloud storage and distributed storage solutions such as BitTorrent magnet links and IPFS.

Authentication using Public Key Cryptography (for DApp development)

Users can create a new key pair and grant permissions to a third-party DApp using the key pair to create signatures and execute contracts.

During the registration process on PRESS.one, a user creates the first key pair as the root key pair. The user can use his or her root private keys for signing transactions to create and revoke third-party key pairs.

PRESSone uses digital certificates to help users verify the identity of DApps and prevent phishing and other security threats. PRESSone provides a Certificate Authority to issue the digital certificates for DApp developers. Issuing Certificate Authorities is not a privilege of PRESSone, and any originator or DAO can become a Certificate Authority based on their reputation.

PRS Contracts

The PRS contract is one of the most essential elements of the PRS ecosystem. The PRS protocol will support smart contracts and Ricardian contract that are defined by an easy-to-understand descriptive language that resembles natural language, and contracts will be executed to make trading effective. PRS Contract interpreter can interpret and execute the code written by PRSC DSL (Domain-specific language).

Prices can depend on the requirements of the order and are calculated during the contract code execution. A contract instance containing a MIXIN network snapshot_id is created after the success of the user payment, and it must be verified by DPOS nodes. Then the

nodes will sign a block, and after more than half of the nodes have signed the block it is deemed irreversible.

The MIXIN network snapshot_id is the payment receipt.

A contract can be deemed "digital content" and can be traded on the PRS network. This will help developers and lawyers to create smart contracts with higher reliability, and reduce security risks.

Following the PRS protocol, contracts can be updated or stopped. All transactions before the update/stop time remain effective.

Transaction messages

A transaction is a procedure that a client follows in the PRS protocol to publish its requests and write to the network. There are several types of transaction messages that the PRS protocol defines, for example, the identity verification message, digital content distribution message, and trading confirmation message. A contract instance with terms and conditions is attached to a transaction message, and the contract execution will make it take effect.

Verification nodes

The PRS validator nodes take responsibility for validating transaction messages and contract execution. The nodes sign the blocks with results after validations return successfully.

PRS Token holders can stake tokens and vote for validator candidates, and the voting service runs on the MIXIN Network. Malicious validator nodes will be voted out and replaced by other candidates.

PRS Network

The vision of PRESSone is to create a blockchain-based digital content transaction and distribution network. The PRS team designed an innovative product framework to construct the network by leveraging the features of the blockchain (Decentralization,

Disintermediation, Distributed Trust, Immutability, and Programmability)¹¹ , and will continue to perfect the framework with the changing complexity and scope of the project.

The core designs include:

- Creating and executing transactions with light smart contracts (PRS contracts) to reduce transaction costs and increase transaction efficiency
- Solving the problem of copyright ownership declaration by storing users' id proof + content digital signature + transaction history (record of licensing authorization) as unchangeable data on the chain
- Reforming digital content distribution using a decentralized architecture, a reciprocal and symbiotic ecosystem, and a new way to redistribute revenue between producers/licensors and consumers/licensees.
-

Framework of PRS Network

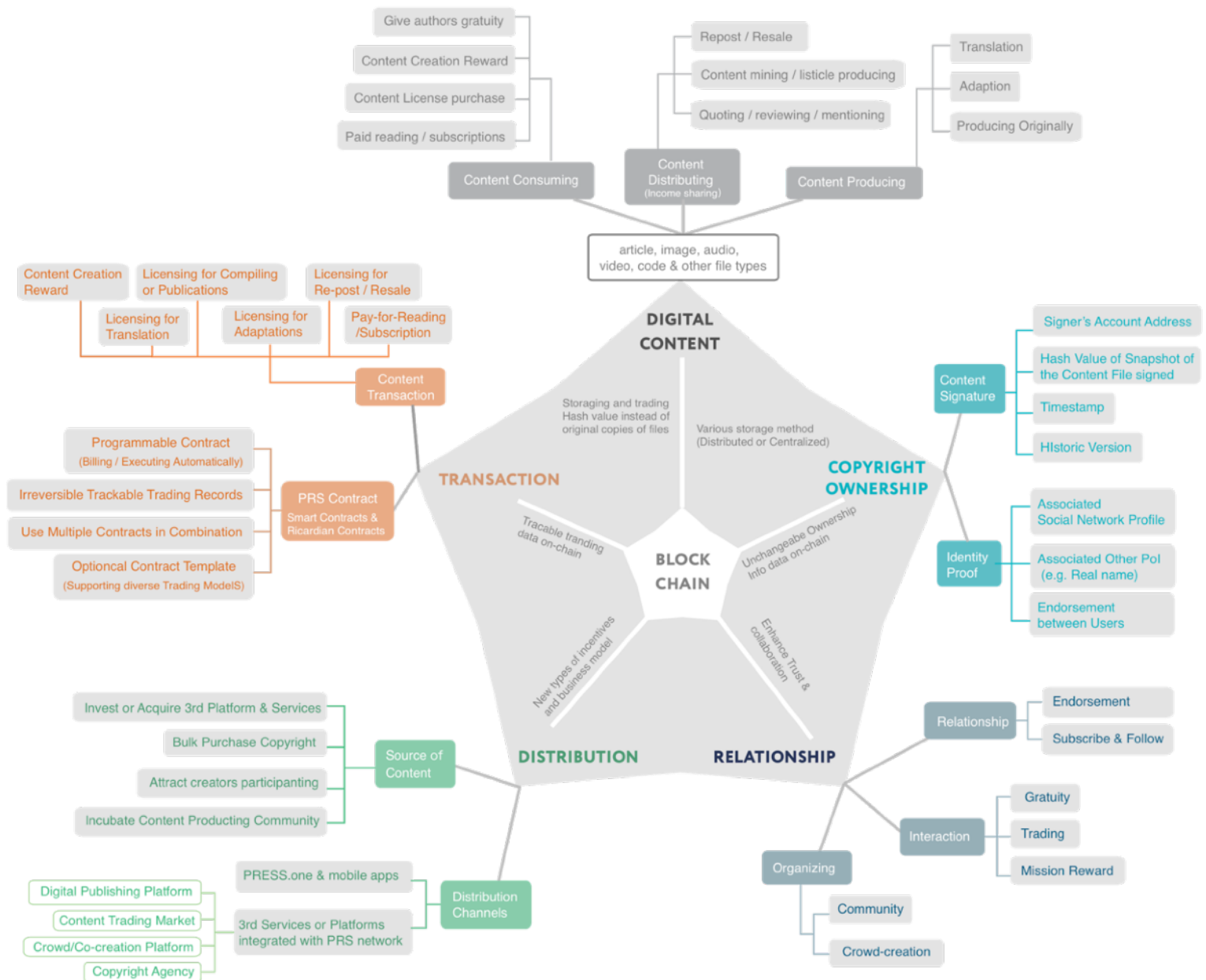
Transactions and contracts

The PRS network supports transactions of any type of digital content, whether an article, a picture, a movie, or an encyclopedia. Any file can be used to create a digital signature and be used as a tradable object, as long as a unique hash value can be produced by the cryptographic algorithm from the file.

The creation and execution of transactions relies on the programmable light contract, an easy-to-understand descriptive programming language that resembles natural language, to set up the contract and define how it runs.

After the content producer creates a digital content signature for their work, they can bind a contract to the signed content and set one or more sets of trading and pricing conditions. Similar to the smart contract, the PRS contract essentially is a piece of programming code that can be executed. A typical example of executing the contract is a content transaction: a buyer who wants to purchase a particular content only needs to

¹¹ Iansiti, M., & Lakhani, K. R. (2017). The truth about blockchain. Harvard Business Review, 95(1), 118-127.



quote the signature of the content associated with the contract to trigger the included operating conditions. The total amount needed to pay will be calculated automatically, and the execution of the transaction and billing can be done automatically in real time.

This kind of transaction with smart contracts is irreversible, with trackable trading records. This can reduce disputes caused by malicious or unexpected behaviour, and reduce costs in term of contracting, arbitration, execution, and verification. Content producers are no longer constrained by the various conditions of the traditional model, and no longer need to rely on intermediary platforms or copyright agencies to manage their transactions.

The range of transactions supported by the contract is immensely diverse, such as Pay-for-Reading, Pay-for-subscriptions, licensing for adaptations or translations, licensing for re-post or resale, licensing compiling or publications, etc. The setting of trading conditions is also extremely flexible. For example, license grants, permitted uses, prohibited uses, validity periods, and termination conditions of a licence can be clearly agreed in the contract, restricting the behaviour of both parties to the transaction (an example: the author of a column with paid subscription contract must update at least 10 pieces monthly for his/her subscribers).

The PRS protocol also supports the application of multiple contracts in combination, thereby enabling more innovative models to emerge during the production, sale, and distribution of content. For example, re-posting, sharing, content mining, listicle producing or review writing can be regarded as “distributing” behaviours, which allow revenue sharing with the original author. The co-creators who adapt or translate a work also can develop a new type of cooperative relationship with the original author under the innovative licensing model. Both parties can earn income fairly and transparently according to their contribution during creation and production.

Contract template

Based on the PRS contract, transaction creators with coding ability can design a contract based on their own needs. For those who don't know how to program, PRESSone offers a contract template store. A “contract template” is a set of contract codes that have been pre-written, such as "pay-for-view", "authorized translation with an agreed revenue split for translated work" are two types of contract templates commonly used. In the store, PRESSone users can purchase a variety of professionally designed, secure, and feature-rich templates for direct application. They can create and set up the contract by simply modifying the parameters in the template, rather than coding from scratch by themselves.

In the PRS digital content trading network, the “contract template” is also a type of digital content commodity, which could attract developers and legal professionals to participate to develop a variety of contract templates for sale or offer customized contract services.

Any type of innovative business model of content trading has to be linked to the invention of a new PRS contract template design. By designing, coding, or combining multiple execution conditions in contracts, a broader pattern of innovation in terms of

trading context, pricing models, and collaboration + income sharing models are allowed to emerge in the PRS network.

Content signatures

The transaction objects in PRS network are the content signatures. To create a contract for a piece of content, you must first create a content signature declaring yourself as the original author or copyright agent of the content. The creation of the signature requires the user's private key. The successfully signed signature information will be saved as undeleted data on the blockchain, which appears as a long character string consisting of the "the user address of the creator" and the "hash value of snapshot of the content file signed", supporting offline verification.

The file types that could be signed include text, images, video, audio, pdf, and more. Users can create a content signature for a single file or a group of files. Iterations of a created content signature on the chain will also be supported in the future.

When you view a digital content signature, you can find out who the signature creator is (viewing the associated proof of identity), the timestamp of the signature created, the hash value calculated from the snapshot when the file was signed, the associated PRS contract; the version history of the signature, and so on.

The metadata of a content signature is transparently stored on the blockchain, but the originally signed file is probably off the chain. The terms of the contract will explain how or where to acquire the original file (or automatically fetch the original file). DApps can choose how original files are stored, which part of data is stored privately off chain, and which part is stored as public data on the chain.

Proof of identity

In general, selling digital content requires the transaction creator to sell using their real name, as it involves legal issues such as the validity of an agreement or tax issues. But considering privacy and avoiding centralization, true real-name systems are difficult to implement on Blockchain networks where data is completely transparent. The PRS protocol solves this problem by adopting support for multiple types of identity proof.

The protocol for identity proof in PRESSone consists of a proof record stored on the chain and associated social network information. To tie a social profile with the user's corresponding key pair, the user needs to get the ID proof URL by posting on the social network a specified proof information signed with their private key, then sign the URL with the same private key and store it on the chain. The more social profiles a key pair is tied to, the easier it is to judge its authenticity. Considering that some social networks require users to register with their real-name, PRS indirectly completes real-name authentication in this simple way.

In addition to the proof of social network identity, the content producer can also prove himself or herself as the owner or account controller by publishing the ID proof URL on a sites such as a personal blog or Medium.

The PRS protocol will also support "endorsement between users" as another type of identity proof.

On top of the above identification methods, in some cases, requirement to confirm users' real name can be fulfilled by installing a plugin providing real-name authentication services based on the PRS protocol as a third-party DApp.

Copyright ownership confirmation and declaration

PRESS.one does not provide a centralized copyright certification, review, and arbitration mechanism. However, the content producer is required to tie to their identity at least one of the ID methods above to publish a content signature using that identity, and it is necessary to link at least one real-name ID proof to set up a contract for trading. Even if someone succeeded in signing a work copyrighted by others', and even if they received revenue from selling it through the PRS network, the evidence of the misappropriation of others' work and the record of sales revenues are permanently stored on the chain. It is impossible to remove traces of piracy and infringement or hide illegal income. This evidence can help the original author claim their rights through legal means.

Meanwhile, in the PRS network, DApps operated by third-party copyright certification agencies could be connected and used when required. These third-party copyright certification DApps also need to build a reputation on the blockchain and safeguard their reputation. Similar to personal users, for a certification agencies or a DApp, once a wrong authentication or malicious behaviour occurs, the evidence also cannot be eliminated.

Finally, in the planning of PRESS.one, there is no place for a centralized content distribution mechanism. Ideally, content producers have accumulated a certain amount of readers and fans on various social networks or channels, so that they can set up contracts to create deals on PRS, and then promote them to their readers or subscribers, who will return to PRESS.one for content or license purchasing. At the same time, an infringer who impersonates the copyright owner will have no such reputation on SNS or other channels. Without enough traffic and income acquired in a short run, they possibly have little motives for impersonation or other malicious behaviour on PRESSone.

Content distribution

PRESSone hopes to solve problems related to the sourcing and distribution channels of content by introducing several diverse DApps or combinations of DApps. As a Blockchain-based digital content trading and distribution network, we have no intention to be the control centre of traffic or a monopolist, because “any undue centralization could result in information asymmetry”, and “possibly using centralized power to damage participants” and “other’s interests in this market” .¹² Such a model also could avoid head-to-head competition too early from the industry tycoons who operate in a traditional centralized model and see user traffic as their core asset.

Furthermore, there are numerous drawbacks of distributing generic types of content in a centralized way. The more reasonable way is to make recommendations, guide traffic, and spread content targeted at users’ attributes, requirements, and usage scenarios.

Based on the open design of an application layer protocol, powerful, easy-to-use fundamental services, and a symbiotic and mutually beneficial ecosystem, PRESSone allows various platform and services to integrate with the PRS network as distribution channels. For example, digital content publishing platforms, various targeted content trading markets, digital content co-creation platforms, and self-publishing service providers. These services and applications can connect users with different interests in different fields to form a huge market with great diversity and liquidity, while at the same time meeting users’ needs in terms of diversity of content requirements as well as differences in consumption motivation or purchasing behaviour.

¹² Chang, J., Han, F., & etc.. (2016). 区块链：从数字货币到信用社会.中信出版社.

In addition, as mentioned earlier, the trust and consensus brought by blockchain, coupled with the application of smart contracts and digital currency, can protect all participants by achieving fair value distribution according to the commitments in PRS contracts. All participants will be endowed with fresh impetus during the distribution of content. This will reshape the role and relationship of content producers, spreaders, and consumers. Due to changes in the income allocation model, each role will be more willing to collaborate and benefit, actively participating in every stage of content production and distribution, in order to share the value-added gains brought by the accelerated circulation of content and facilitation of transactions.

DApps in PRS Network

DApps by PRS Team

PRESS.one Website

PRESS.one is the official website of PRS project. It contains core functional modules of the PRS network, including ID proof and content signature management modules, a content trading module, and an economic module (My Wallet and transaction history). A Task Admin System, Task Hall, and other resources will also be open as platforms to fund institutions and stakeholders in the PRS ecosystem.

3rd party developers also can find all the documents, resources, and supports they needed on PRESS.one.

Mobile App

The PRESSone mobile App, including Android and iOS versions, has been in public beta since the end of July 2018. The mobile app is positioned differently than the PRESS.one website. It focuses on the previewing (reading, listening, and playing, etc.), trading, and aggregation of content on PRESS.one, with the optimal design for mobile application scenarios.

Future versions will see the mobile app evolve into an online digital content mall and multimedia reader supporting various content types and file formats.

3rd Party DApps

Since the beginning, the PRS team has firmly held the values of openness, technology and innovation, and attached great importance to the building of developer ecosystems. The architecture of the PRS protocol layer clearly reflects that 3rd party DApps are a core component of the PRS network. The participation of and contribution from 3rd party developers are invaluable for this project.

Here are some examples of 3rd party DApps we assume will arise, matching the stated values and business logic of the PRS network, driven by substantial pent-up demand, and representing great market potential. All of them can be built based on the PRS protocol.

There are many other similar ideas. Hope that these examples can be used as inspiration for developers and entrepreneurs to do more exploration and innovation in the areas product and business models, using their competitive advantage to create a market niche of their own.

1. **Stock photography pictures: PRS500**

A platform aggregates, categorizes, and recommends photos and images collected from photographers, which allows image users to find what they need and run the contract to pay the photographer easily.

Product concept: Photographers can link their social network identities and upload their work. With PRS smart contracts, they can customize various licensing models supporting different pricing models and ratios of shared revenue. The photographers get paid without wasting energy on dealing with the trading request. The website profits from a rational revenue share. Several stock photography can co-exist with different niche market positioning. All signed contracts and revenue sharing details are transparent on the blockchain, which is fair for the content producer and the distributor.

2. **Certificate authority service based on PRS: PRSCA**

A 3rd party with credibility and a relevant reputation can set up a centralized identity certificate authority.

Product concept: Although decentralized identity certification is one of the core concepts of PRS, there are users that consider centralized certification more

convenient. A certificate is also a piece of digital content. All smart contracts using PRS can implement fee-collecting, authentication, and certificate issuing processes. All the authentication results and certificates will be released on the blockchain after signing by the certificate authority. Were something to go wrong, the incorrect record would be open to all and damage the reputation of the certification authority. Such centralized institutions can co-exist and compete, which would make reputation a valuable asset to them.

3. **News aggregator like Hacker News:** PRS Digg

Product concept: Users can forward the good content they find in the PRS network and up-vote their favourite content by spending PRS. In the end, all the revenue will be shared based on the associated contract. For instance, the user who forwards the content receives 30% of the revenue, and 70% belongs to the creator of the content.

PRS Ecosystem

Summary

One of the ways blockchain is disruptive is how it can change incentives, also the ways and effectiveness of how groups and organizations cooperate. This can redefine economies and the power of productive activities.

Where do these changes originate from?

- By holding the token of the project (the PRS Token), participants are the contributors as well as the value sharers of the PRS ecosystem.
- The value growth of the whole ecosystem will automatically be allocated to all the contributors, builders, and investors through the rise in token value, in an transparent and fair way.
- This will be one of the major driving forces of participation and commitment from every stakeholder, encouraging them to cooperate, contribute, and create value for the ecosystem spontaneously.

- The distribution, equality, transparency, and consensus of blockchain will enhance trust among people. Furthermore, it will increase the efficiency of collaboration and offer more ways to participate, endowing individuals with more power and opportunity.

The PRS ecosystem is a value network being built around the PRS project and its developing vision. It is a self-organizing system, and with continue to evolving in this way. Value created by members will be shared in the whole ecosystem. Over the long haul, the PRS ecosystem will eventually adept a decentralized, distributed, and autonomous approach to collaboration that encourages diversity and innovation, and establishes a systematic and orderly symbiotic relationship.

Stakeholders

- **PRS project:** the creator and constructor of the PRESSone project
- **PRS Official Foundation:** the management and investment institution operated by the PRESSone project established on May 1st, 2018, whose goal is to promote the activity and development of the PRS ecosystem. It carries three primary roles at the current stage:
 - The certification and supervision of funds held by the foundation;
 - Investing in and supporting projects;
 - Establishing and operating PRS directly managed funds.
- **Pioneers community:** established by supporters, early token holders and fans of PRS project in March 2018, with the vision of helping the PRS project and its ecosystem grow, and acting as builders and guardians of the system.
- **Developers:** the developers of third party apps, tools and plugins, code contributors at the protocol layer, contract developers, and any other technical professionals that offer technical services and application development in the PRS network.
- **Users:** all the users of applications and services in the PRS network, such as content producers, readers, licensors, licensees, distributors, spreaders, and copyright agents.
- **Investors:** PRS Token holders.

How To Engage

- **As a content consumer:**

In the traditional model, most consumers only act in the passive roles of customer and reader. However, the PRS ecosystem allows consumers to play multiple, more proactive roles, including spreader, distributor, and co-creator. For example:

- Create and join a diverse reader and fan club for supporting and motivating their favourite author or subject that intrigues them.
- Get involved in content discovery, compiling, spreading, distributing, and co-creating. Earn shared revenue and participate in the formation of value and its distribution.

- **As a content producer:**

- Open a channel and trade your creations, selling or purchasing content licenses on PRESS.one or 3rd party DApps;
- Partake in the design of the contract templates and bring innovative application scenarios or business models to each link of content trading cycle;
- Invite your readers or followers to come to the PRS network and build a mutually beneficial cooperation with them;
- Participate in projects operated by various funds in the PRS ecosystem for supporting authors and cultivating specific or targeted content creation, potentially obtaining early bird benefits from these projects.

- **As an investor:**

- Invest and incubate organizations and funds in the PRS ecosystem. The self-funding fund can run either commercialized or non-commercialized projects.
- Hold your token and share in the long-term dividends from the PRS network value's growth.

- **As a developer and entrepreneur** (Please refer to previous sections related to the value and incentives of engaging in the ecosystem):

- Build applications, tools, and plugins based on the PRS protocol. Integrate the PRS protocol with your existing applications;

- Offer web servers, development tools and services to other DApps in the PRS network;
- Write contract code templates and sell them on the PRS contract template store.
- **As a community builder and pioneer:**
 - Join the PRS Pioneer Community and help manage and operate the community fund;
 - Claim and fulfill tasks offered by various PRS funds contributing to building the PRS network and fuelling the boom in the ecosystem, obtaining PRS Tokens as a reward;
 - Start a fund and apply for investment from the PRS Official Foundation or other investors, working as a trailblazer of innovation to exploit what is lacking in the PRS ecosystem.

Setting Up Your Fund

Any participant or supporter of the PRS ecosystem, and anyone who believes in PRS's value can start a fund, join a fund, or join any project under a fund.

There are two types of funds:

- **Direct Management Fund:** Created, managed and operated directly by the PRS Official Foundation to support the development of the project and the ecosystem. This may include funds such as a developer relationship building fund, a PRS branding fund, or a fund to support new creators. These funds are primarily invested in by the PRS Official Foundation. Some also may accept outside investment.
- **Self-funded Fund:** Voluntarily created by supporters of PRS ecosystem. You can apply for investment from the PRS Official Foundation, or you can raise funds by yourself.

The PRS Official Foundation was established to help all participants and builders of the ecosystem to share experiences and lessons and reduce the risk of failure when operating funds and projects. All types of funds can get additional support from the PRS project team in terms of investment, products, technology, and strategy.

The main missions of the official foundation include: approve and certify the establishment of the fund, support the preparation and operation of the fund and projects, supervise the announcements and transparency of the fund and projects, select and invest in self-funding funds and projects that can promote the PRS ecosystem, and supervise and track the usage of funds and results of investments.

In the early stage of PRS ecosystem, the PRS Official Foundation will be relatively centralized to aggregate the resources of the PRS ecosystem, reduce the risk of failure, regulate the operation of the fund, explore potential teams, and invest and support projects.

However, with the development and evolution of the PRS ecosystem, various fund founding teams, investors, and participants will grow together after various project experiences. The various organizations, governance, constraints, and reward mechanisms within the ecosystem will also be improved, and the role of the official foundation will change as well.

At present, the official foundation and other fund projects are still in the early stages. Processes and rules will be gradually optimized according to the results of trial operation. That being said, information transparency is the most basic requirement for each fund from the PRS Official Foundation, and it is also the primary principle of each project's operation.

Potential scenarios for the self-funded funds:

- **Original Sci-Fi Support Fund** (Self-funding, Sci-Fi fans raise funds, or invested in by the PRS Official Foundation). Examples: holding award-winning events with original Sci-Fi content; holding a PRS Sci-Fi authors meet-up. Extra tokens can be awarded for behaviours like publishing, reposting, promoting, and reviewing.
- **Specific Writer Fund** (Self-funding, non-official investment). The vision for this type of fund includes an aspect of commercialization. The fund can be invested in by the writer's fans, followers, agents, or even the writer themselves.

Direct management Funds founded

PRS Newcomer Fund. Goals: Designing tasks to help newcomers be familiar with PRS products, discovery valuable content & authors, or explore interesting usage.

- PRS Branding Fund. Goal: Expanding the brand influence of PRESSone, promoting quality apps, creators and content in the network. Designing motive tasks to attract participants in the creation and dissemination of branded content.
- PRS Developer Fund. Goal: Building a strong relationship with developers, offering support and resource for 3rd apps development. Discovering outstanding developers or quality Dapps, fostering innovation.
- PRS Creation Promoting Fund. Goals: Discover outstanding creators, fostering fine originals, attracting more quality authors to settle in. Design tasks promote interaction between authors and readers.

PRS Token

The token in the PRESSone network and ecosystem is called PRS, with a total supply of 2 billion tokens. PRS is issued based on the Ethereum ERC-20 standard contract. In addition to its circulating value, in the PRS network and DApps the PRS Token can be used widely for payment, trading, collateralizing, and exchanging for network resources.

Token Consumption

The purpose of consuming the PRS token is to increase the usage cost to prevent spam. The recycled tokens will be rewarded to the verification nodes as revenue for the network.

Actions which consume the PRS token include: creating a contract, creating a content signature, executing a contract, and other operations consuming network resources.

Other expenditures could exist in the network as well. For instance, a storage service provider might request a certain amount of storage fees.

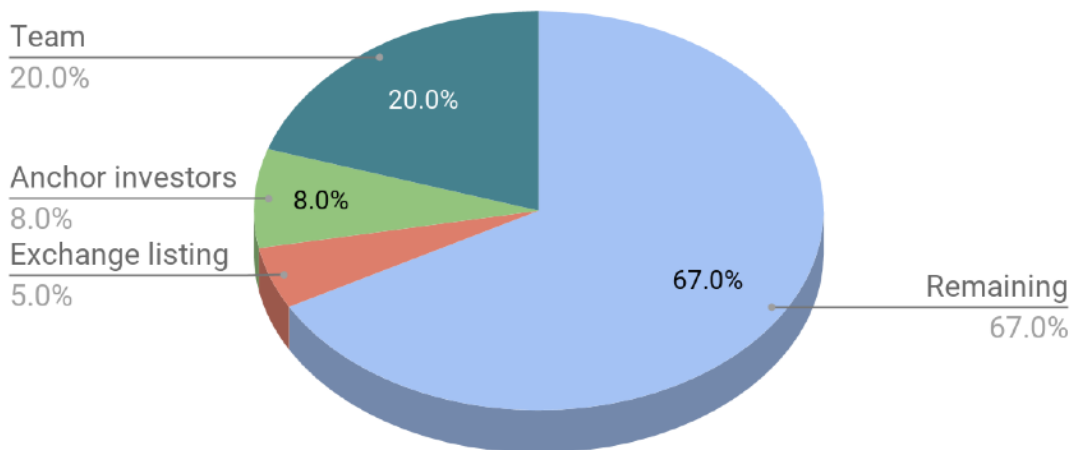
Token Collateral

Vote for the nodes that verify transactions in the PRS network. (The PRS project team and the uncirculated tokens will not vote.)

Token Distribution

On January 8th, 2018, the PRESS.one project issued 2 billion (2,000,000,000) PRS tokens. [Token: `0xe0d95530820aafc51b1d98023aa1ff000b78d8b`](#)

PRS Token Allocation



- **Exchange listing: 5% (100,000,000 PRS)**

100 million PRS token was listed on Big.ONE on January 8th, 2018. The revenue from the exchange listing will be used for the PRS project operation and development, including the expenses of R&D, marketing, operations, media & PR, financial, and legal affairs.

- **Held by anchor investors: 8% (159,800,000 PRS)**

Owned by early investors who are influential and optimistic about the prospects of the PRS project. They will be of great help to the PRS project in terms of resource cooperation, business development, and market confidence. The acquisition costs of the anchor investors are the same as the public exchange listing costs at Big.ONE.

- **Team total shares: 20% (400,000,00 PRS)**

The shares reserved by the founding team for rewarding contribution of the team members during the development of PRS. Most of these shares will be locked for a long

time. 0.9 million shares (900,010 PRS) have been unlocked as the team quarterly bonus for 2018-2019.

- **The remaining shares: 67% (1,340,200,000 PRS)**

These will be used for ecosystem building, strategic acquisitions and investments, business partnerships, resource exchanges, verification of node collateral, operations, and marketing activities. They will be slowly injected into the PRS ecosystem in stages and in a planned manner.

60 million shares (60,000,000 PRS) have been locked in Candy.one.

2.19 million shares (2,192,538 PRS) have been unlocked for purpose of ecosystem building, operations, and marketing activities.

The shares planned for the PRS ecosystem will be primarily released by the PRS Official Foundation to support and establish funds and projects. The foundation will release signed monthly investment reports to announce each investment amount and purpose, guaranteeing the information transparency of the foundation.

Token in circulation

- **Total circulating supply: 13.14% (322,892,548 PRS)**

Including tokens in public's hand, held by anchor investors and the unlocked part in the team and the remaining shares.

- **Tokens locked: 86.86% (1,737,107,452 PRS)**

- The locked part reserved for the team and the remaining shares:
[ox1682c90820a14a24985a8f8340d6baec5ee8a9dd](https://explorer.candy.one/address/ox1682c90820a14a24985a8f8340d6baec5ee8a9dd)
- Shares locked in Candy.one:
[oxab414ac271b49502e760bb31677997ef37dfbe7a](https://explorer.candy.one/address/oxab414ac271b49502e760bb31677997ef37dfbe7a)

How to Acquire PRS Tokens

- You can buy them on cryptocurrency exchanges.

- As a user, you can partake in trading and other economic activities in the PRS network, including content trading, obtaining rewards, engaging in content discovery, compiling, spreading, re-selling, and co-creating.
- As a user and community participant, you can obtain PRS tokens as rewards for participating in tasks designed by funds in the PRS ecosystem, by making contributions, and by committing to the completion of tasks.
- As a deeply involved participant, you can join the project of building the ecosystem. Start your own fund, submit your project proposal and apply for investment from the PRS Official Foundation.
- As a developer and entrepreneur, you can participate in the advancement and growth of the entire the PRS network by: building applications, tools or services based on the PRS protocol; providing infrastructure or technology services to other DApps within the network; integrating the PRS protocol with your existing applications; and so on. You can profit by offering products and services to your users. PRESSone is quite willing to incubate and provide investment to projects beneficial to the ecosystem.

TEAM

Li Xiaolai, CEO

Li Xiaolai is a Chinese investor and blockchain enthusiast based in Beijing. As an early proponent of Bitcoin and blockchain, Li has started several funds, launched a cryptocurrency exchange, and invested in blockchain projects.

Huo Ju, CTO

Huo Ju has over 20 years of experience in software development, software architecture, and technology management. Previously, he co-founded GinkgoTek, the first in-site search engine cloud service provider in China, was a senior researcher at Shanda Innovations, and worked as an independent technical advisor for several media system projects with global media giants, including The New York Times and The Financial

Times. In addition, Ju is one of the most influential bloggers in the technology and hacker/crypto space in China.

Xi Qiao, COO & Product director

Xi Qiao has been engaged in the internet field since 2005, working in project management, UX design, and product management for more than 10 years. Her project experiences in the digital-content area include building or rebuilding information systems, websites and workflow systems for the Chinese version of The New York Times and The Financial Times. She has partnered with Huo Ju in several tech projects and start-ups. Also, as a content producer, Xi Qiao started Mysterious Programmers in 2009, the first and most popular comic strip related to technical culture, programmer lifestyle and project management in China with millions of readers.