WhitePaper

Project background

Blockchain technology

Distributed ledger technology has the potential to be the greatest revolution of the information age since the birth of the Internet. Its potential applications will be diverse and its impact will cover all industries. However, the broad concept of blockchain technology, particularly among mass consumers, is very esoteric. The audience of existing blockchain projects is mainly limited to early investors and some enthusiasts with highly professional technical background or blockchain technology. Most of the blockchain projects born out of these groups are at the conceptual stage, and a few are still actively exploring. But the functions of the corresponding practical products are still vague.

Block chain is a distributed ledger, a technical solution to collectively maintain a reliable database through a decentralized and consensus mechanism. It is one of the most concrete and revolutionary emerging technologies. Block chain is essentially a decentralized distributed book database. Its value is that by building the organization network, the use of cryptography associated algorithm generated a string of data blocks, not tamper with the time, each block contains transaction validation information many times, thus establishing the mechanism of distributed consensus, so as to realize decentralized trust system. As the underlying architecture technology, blockchain makes use of the characteristics of decentralization, non-counterfeiting, openness and transparency, distributed accounting, non-tampering and smart contract, showing the world the possibility of realizing value transfer without intermediary.

Initial Coin offerings (ICOs) of all kinds have been proven as a viable means of financing blockchain projects. However, in trying to open up funding to investors outside the venture capitalists' sphere of influence, this approach also discourages other audiences from joining in. Moreover, some of the illegal activities carried out in the name of ICOs are even more worrying. The sale of these tokens amounted to fraud, casting doubt on the models, projects and technologies associated with them. As media attention has focused on the value of cryptocurrencies and their potential threat to the financial industry, this has relatively hampered innovation in blockchain technology. Hence the focus on "low-hanging fruit", such as applications tied to cryptocurrencies.

Similarly, while the phrase "cryptocurrency" commonly springs to mind, users do not understand the deeper implications of blockchain technology beyond simple transactions and investments. Even if it makes sense for something new to cater to public interest to some extent, this may limit innovation in the blockchain space in both the short and long term.

DeFi broke out

DeFi (Decentralized Finance) refers to the financial behaviors running on the underlying blockchain systems such as ETH Ethereum and Binsecurity Intelligent Chain (BSC). DeFi uses smart contracts to allow digital assets to recreate the traditional financial order in a blockchain network and create synergies with each other. Typical applications include quantitative, market making, lending, insurance, bonds, funds, auditing, derivatives, ETFs, exchanges, clearing and settlement using digital assets. Corresponding to CeFi (Centralized Finance), DeFi decentralized

Finance has the characteristics of code neutrality and open source, decentralized operation, non-centralized supervision, decentralized autonomy and so on:

- Code neutral open source: Refers to the DeFi project running on the blockchain running in the blockchain network and open source code. Every smart contract interaction and open source code can be checked publicly on block browser at any time: the mainstream project code on the chain is audited by code audit company to avoid the occurrence of backdoors, bugs and other malignant events affecting the healthy operation of the system. Most traditional Internet applications do not have completely accessible source code.
- Decentralized operation: DeFi projects can be run at mining sites around the world on the blockchain main network, unlike traditional Internet applications, which need to be run on company-owned centralized servers. Decentralized blockchain nodes are more resistant to risk, and as long as there are mining machines around the world doing mining and accounting for the public chain, the block network can operate normally.
- Decentralized supervision: Blockchain network applications run on myriad blockchain nodes, and projects go online on the main network without scrutiny by centralized institutions, making innovation more free and development faster. Without supervision, DeFi network completed the chain reconstruction of the traditional financial system in just half a year, and tried various innovations on the original basis. On the other hand, non-centralized supervision also makes investors less protected. DeFi network gradually grows in the form of decentralized organizations in accidents such as hackers and loopholes.
- Decentralized Autonomous Organization (DAO): Most header blockchain network applications take Decentralized Autonomous Organization to manage major events and development paths of projects. Any community member can initiate a proposal, and all users with digital assets can vote on the direction of the project based on their holdings. The DAO is similar to a 24/7, 365-day, anytime shareholder meeting.

The concept of DeFi began to rise in 2014-2017, and various DeFi projects such as decentralized lending gradually came online in 2018-2019. It became widely popular in January 2021 as bitcoin's bull market attracted the market's attention. DeFi lock-up volume topped $80 billion on April 6, 2021. The stock of digital assets in DeFi network exceeded $101 billion at the beginning of April 2021, accounting for about 5% of the total volume of digital currency, and has a further trend of acceleration.

NFT

NFT can be traced back to the earliest 17 years, when CryptoKitties, the hottest DApp at that time, was once all the rage as the first phenomenon DApp. It introduced a lot of people to what dApps were, led to the first significant congestion in Ethereum, and brought the concept of NFT to light. Until now, crypto cats have grown to approximately 2 million cats of different styles, nearly 90,000 addresses have at least one crypto cat, and the market transaction is about 700,000, valued at 60,000 ETH.

On the blockchain, digital cryptocurrencies are divided into native coins and tokens. Most of the former are state chains. BTC, ETH and others dig out through mining and use transactions on the chain to maintain ledger data. The latter, such as Link and Comp, attach themselves to existing blockchains and use smart contracts to record books. The token can be divided into two kinds of homogeneity and non-homogeneity.

The homogeneous Token, namely FT (Fungible Token), is a tKEN that can be replaced with each other and split virtually infinitely, based on ERC20. In a nutshell, bitcoin, for example, can be split into 0.1 pieces, or 0.01 pieces, which is FT. Non-fungible tokens, or NFT, are unique and non-detachable tokens such as crypto cats, tokenized digital tickets, etc.

Thus, NFT differs from FT in that it provides a way to mark all rights to native digital assets (that is, assets that exist in, or originate in, the digital world) that can exist outside of intermediate services or intermediate repositories. NFT's full authority does not prohibit others from observing it or browsing it. NFT does not capture information and hide it, but captures it and discovers its relevance and cost to everything else on the chain. At the same time, NFT, because of its non-homogeneity, non-splitting characteristics, so that it can anchor the view of goods in the real world, simple to understand, is issued in the block chain of digital assets. This asset can be game props, digital art, tickets, and so on, and has uniqueness and non-replication. Because of NFT's natural collection properties and ease of business, crypto artists can use NFT to create unparalleled digital art.

NFT tokens mainly include Ethereum's ERC721 and ERC1155 standards. Crypto is the first to use the ERC721 standard issued by Ethereum. ERC1155 is an improved version of ERC721. The 1155 can issue any kind of NFT asset in a single contract, with a number of tweaks to the metadata setup.

The main application fields of NFT token are games, artwork, domain name, collectibles, virtual assets, real assets declaration (STO) and other fields, especially

artwork and games have attracted high attention in the market. Some game items and artwork are inherently unique and unbreakable, and are coupled to NFT, so NFT is a great way to avoid forgery and fraud.

Metaverse creation

The word Metaverse comes from Neil Stephenson's 1992 science fiction novel Avalanche, in which avatars, cyberpunk, and more are set.

The word Metaverse is composed of Meta+ Verse, Meta means ahead, and Verse evolved from Universe, generally referring to the Universe and the world. As for the Chinese word "meta-universe", this is also a literal translation. We can even see that many companies use Meta and Verse in their product names, including MagicVerse, Cyberverse, Ominiverse, MetaHuman Creator and so on.

According to Wikipedia, the metadverse is a collection of virtual spaces, a persistent, open and shared 3D virtual world that combines virtual and real worlds. The concept explains Magicverse pretty much the same way, but times have changed, and Magic Leap, once intent on expanding the consumer AR market, has moved into toB.

The products of the metasurverse include several features: virtual and real 3D space, connecting people, people and things, always online, digital currency system, different companies have different terms. Obviously, games and social are the two product lines that best fit those categories, so the biggest examples we're seeing right now are players in games and social.

From the product point of view, the future does exist metabolic products. Regardless of the rote research reports, we understand the measures as a continuation of the gaming and social ecosystem, and the future concept of the measures is and will be dome-based.

Metaverse can be seen as a whole new world where the rules are different from the real world and have their own specific boundaries. At the same time, Metaverse is also coupled with the characteristics of blockchain. Each chain can be regarded as a meta-universe, and the assets in this chain will also correspond to the assets in the corresponding meta-universe.

Existing problems

No matter DeFi, NFT or Metaverse, they are the result of the evolution of human thought and behavior. The current blockchain system is too full of concepts, emptiness and other characteristics. Some of its internal concepts and ideas are

difficult to understand, and even produce a phenomenon that people do not want to be understood.

The technical characteristics of blockchain itself are the result of the progress of the Internet. However, both educational resources and certification bodies in the market are mostly separated from the characteristics of "decentralization", and most of them still focus on anonymity. In fact, anonymity is not the main reason to promote its progress. On the contrary, the decentralized feature of blockchain itself is a revolution of rigid system and ideology. Only projects with decentralized features can enhance the resource utilization efficiency of the whole group.

Based on its conclusions about decentralized resources, CertificateDAO looks at the decentralization of educational resources, certification information. CertificateDAO, to a certain extent, realizes the universality of education level, improves the efficiency of information authentication and transmission in the market, and makes corresponding contributions to the realization of real decentralized services.

Project introduction

Core resources

CertificateDAO offers free educational resources on DeFi, NFT, Metaverse and other application programs for all. The presentation is modeled after Wikipedia's knowledge sharing model. CertificateDAO aims to make educational resources accessible and address the cost of educational resources.

CertificateDAO provides learning materials for corresponding topics in four categories: knowledge-base, Tutorial, Reference, and NoteBook. All learning materials in CertificateDAO are self-edited in a way that enables learners to "input" their domain knowledge, insights, and insights into CertificateDAO's collective resources.

CertificateDAO defines learners who contribute to the input of collective resources and to the growth of the organization as "nantan" (spiritual leaders in action). In this way, Nantan will guide and inspire other learners to continue to contribute to the collective educational resources.

Therefore, the core resource of CertificateDAO is collectively contributed learning materials. CertificateDAO will not profit from this, let alone take it private.

CertificateDAO kernel is slightly close to (tends to) the socialist concept of collective production (not political!). To promote individual knowledge progress through resource sharing; on the other hand, the progress of individuals in the collective will

generate new insights, and individuals in the collective will input new insights into collective education resources according to spiritual guidance, so as to further develop collective education and learning resources.

The role in CertificateDAO

CertificateDAO's participating roles can be divided into

1. Player
2. NanTan
3. Committee

Initial collective educational resources were contributed by the Committee. The public, in the role of Player, becomes a member of the CertificateDAO collective to access and learn educational resources.

As CertificateDAO grows, some players will be inspired to come up with different modes of action and educational concepts. This part of customer will share insights and contribute to the group. CertificateDAO identified contributors at various times as NanTan. (from a tribe in South Africa). Nantan characters influence everyone in the group with their actions. NanTan was not just a professional with profound knowledge. He was more inclined to the spirit of action conduction.

Like the movie's main character, the leader, NanTan's spiritual symbol and spiritual guidance significance is greater than its individual value. CertificateDAO also uses collective resources to encourage NanTan as much as possible, so that player's spirit can be infected into the collective to produce new NanTan.

Committee is a relatively special role in the CertificateDAO collective organization structure. A Committee mechanism has been set up to ensure that collective resources are of good quality and that CertificateDAO is able to protect the interests of the public in the event of certain highly destructive scenarios being sent. The establishment of the Committee will move CertificateDAO from a totally distributed to a hybrid organization. The Committee does not have any interest power, but only system power. The Committee can initiate collective arbitration on destructive behaviors within the organization and guide the collective to make judgment on them.

CertificateDAO value mode

CertificateDAO creates a new capability certification derivative service system through investment in federal chain infrastructure.

CertificateDAO provides a competency derivative service based on collective education resources. This service is not mandatory and is completely independent of collective education resources.

The Competency Derivative service is currently the DFA certification service, which is managed by the Committee agency. The service is based on CertificateDAO's collective educational resources, market development, and academic progress. Based on the exam-certification approach, NFT is issued to the participants as an endorsement of their knowledge level and business competence, demonstrating CertificateDAO's certification of their professional competence.

NFT can sign relevant blockchain projects through CertificateDAO to enhance the market credit endorsement of corresponding projects in this way of prior audit. Related projects can also be issued through CertificateDAO request audit tasks, holding NFT individuals can apply for their project audit, audit, information certification report.

It is important to note that CertificateDAO reserves the right to cancel and blacklist the NFT of an individual in the event of any fraud or other misconduct detected by the individual in the process of certifying the project. The relevant individual may no longer use the relevant interest in CertificateDAO.

CertificateDAO offers community tools token CFE as community culture, derivative services tool token. CFE instrument tokens do not have investment attributes and do not represent related interests.

In this system, in addition to NFT tokens provided by CertificateDAO, more users, scholars, research institutes and other third parties can also participate in the whole system by means of CFE tool tokens. We introduce two control standards, Committee and credit certification parameters. To ensure the smooth operation of the entire ecosystem and maximize the credit value of NFT capability certification.

- the committee
- Credit authentication parameters

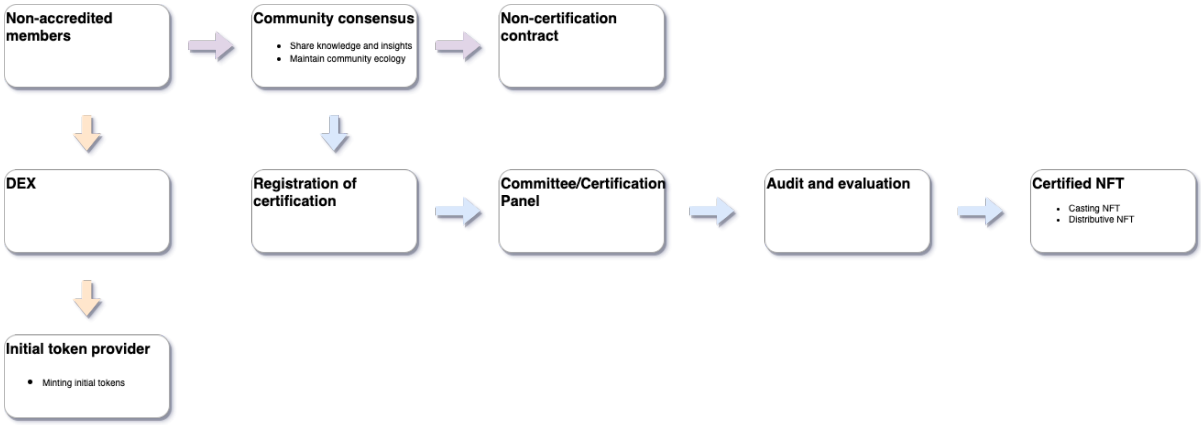
The board has control over the business of CertificateDAO but cannot interfere with the implementation of CertificateDAO's services. The board's role is to restrain and guide destructive behaviour within Certificate Atedao. The board is also responsible for the temporary termination of CertificateDAO services (STW mechanism) in extreme scenarios.

Credit authentication parameters are represented by multiple values, among which the main values are:

1. Token clearing value of authentication service
2. Individual community reputation

These values will affect the behavior of individuals in Certificate AtedAO, which cannot prevent or prohibit any destructive behavior of individuals, but can guide individual behavior through corresponding policies. The credit authentication parameter is a structural policy.

Complete competency certification service interaction process:

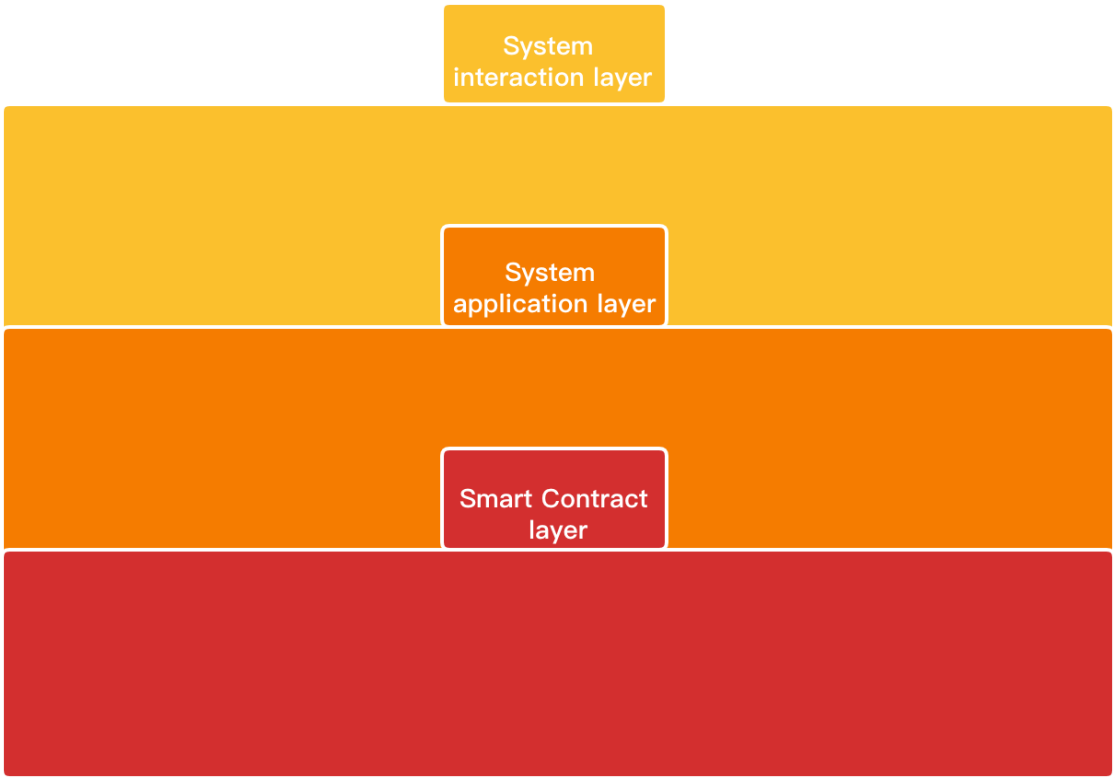


Project technical system

System design

The CertificateDAO system architecture level is divided into three layers: system interaction layer, system application layer, and smart contract layer. The system interaction layer and the system application layer do not directly communicate with the block chain, but communicate with the smart contract layer in the form of RPC, and complete the information transmission and information interaction of the assets on the chain in the smart contract layer.

The basic level design of is as follows:



System interaction layer

The system interaction layer is the front-end interaction page of CertificateDAO and the outermost layer of the system directly facing the public. The outermost layer of the system is mainly Nginx server as static resources, the basic services of the website page.

The main components of this layer: Nginx network management layer, front-end service layer

System application layer

The system application layer is used to perform educational resource interaction, user relationship management, and related internal logic processing in CertificateDAO.

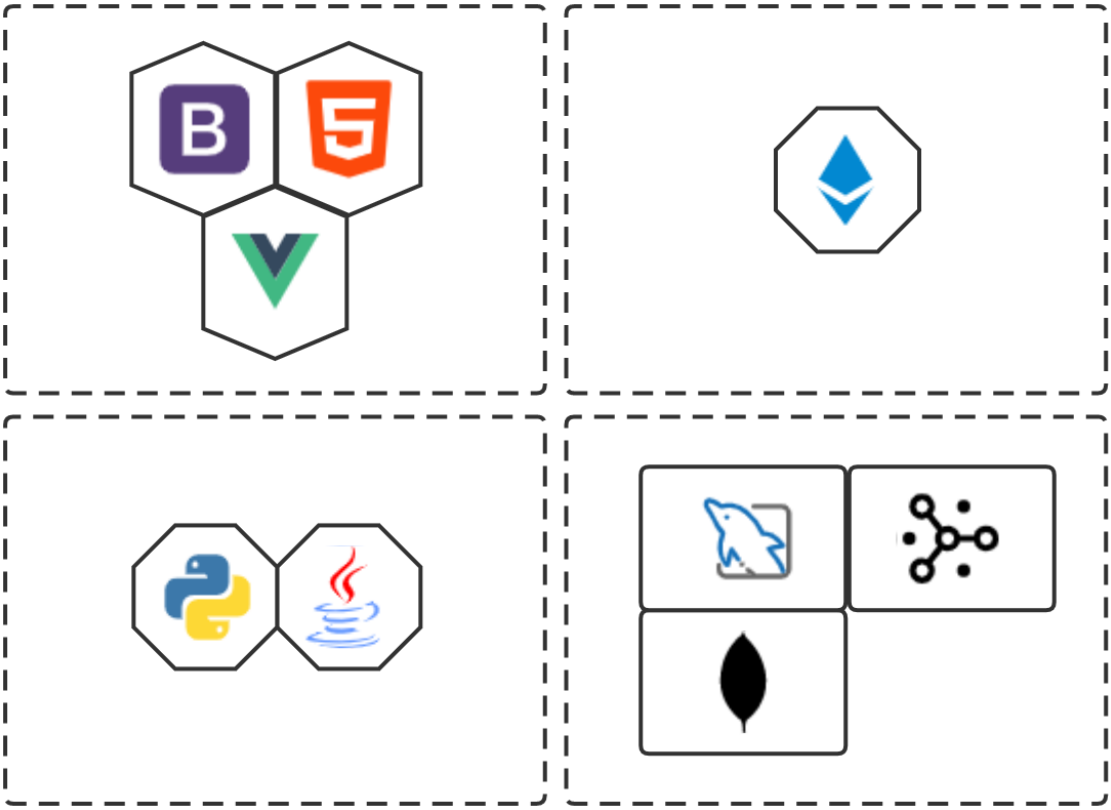
The upper layer of this layer is called by the system interaction layer, and the lower layer interacts with the smart contract layer and the system data store.

Smart Contract layer

The smart contract layer mainly interacts with the data assets on the chain. The data assets here are not only CFE tool tokens, but also capability certification NFT and

pre-certification certificate NFT.

System component architecture design drawing:



Hybrid data store

The main data types of CertificateDAO are: customer data, educational resource data, and NFT certification data.

1. User data

User data is CertificateDAO customized data, and its data structure is continuously updated as the system evolves and the organization grows. On the other hand, customer data can change, and data change operations are frequent. Therefore, this part of the data is not suitable for chain storage, consider local database storage.

2. Educational resource data

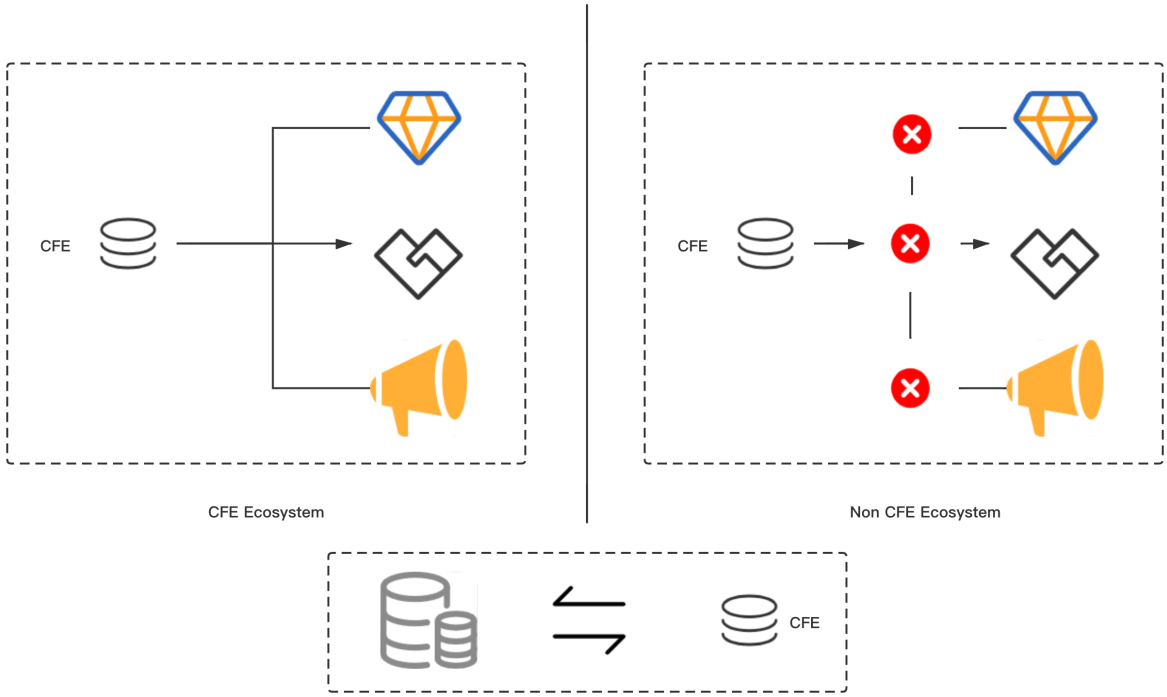
Educational resource data, like customer data, is itself data that is continuously evolving and reconstructing content. This data will change as CertificateDAO becomes more influential, recognized and the blockchain market evolves. Considering that a transparent management mechanism should be established for

this part of data, education resource data will be stored in two different ways: LocalDataBase and IPFS.

3. NFT authentication data

NFT certification data is unique, authenticable and time-limited, and NFT certification data is the certificate of competence certification produced by CertificateDAO credit endorsement. It naturally lends itself to immutable data storage. Therefore, NFT authentication data is considered to be stored in the on-chain mode.

The token value of CFE ecosystem:



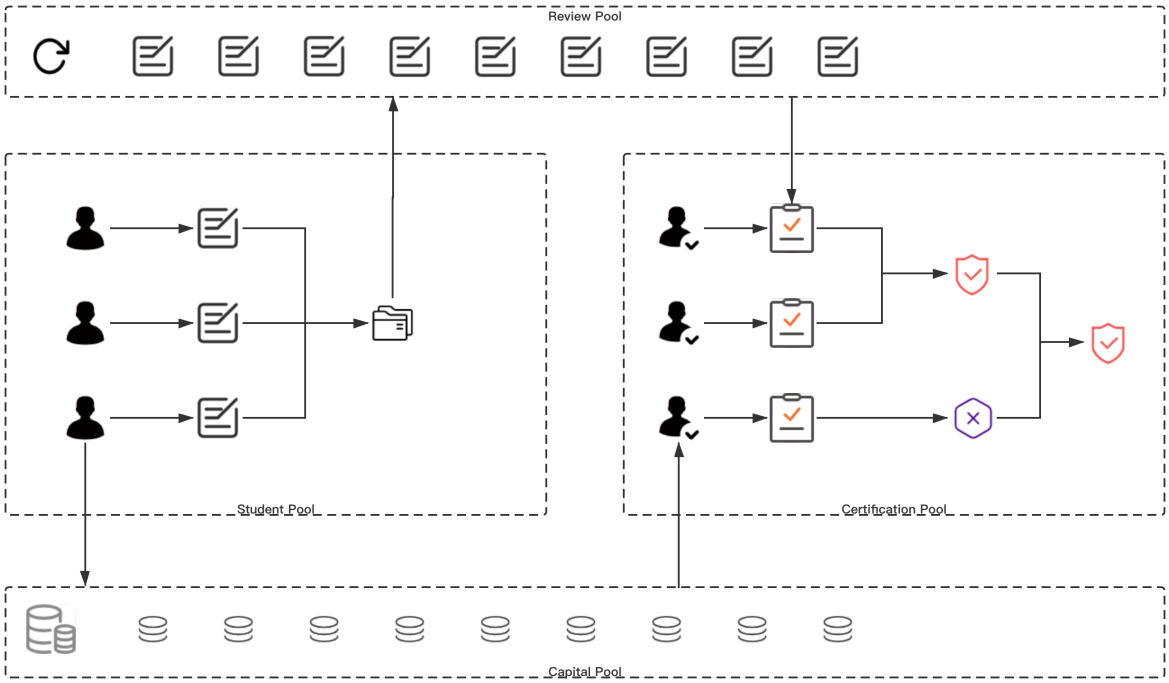
Thus, CFE tokens act as a specific medium of exchange in a particular service scenario that links the valid confirmation behavior of participants to the actual value products.

Sharing ability Authentication Mechanism design - Resource authentication mechanism based on game theory

The certification mechanism of CertificateDAO will adopt two ways, the first for the Certification committee of CertificateDAO through the registration of the selection of the certification group to carry out the certification; The second is similar to PoW + PoS, where community members maintain their own certifications internally. The two authentication methods are different in terms of participation, cost and timeliness, and the certification results are the same.

The first certification method is maintained by the CertificateDAO committee and the certification cycle is short. Certification fees are charged by CertificateDAO; The second certification by the community internal audit, certification cycle is long. Each **credit member** who pledges CFE will form multiple certification groups, and the certification fee will be distributed according to the credit level of the certification group and the amount of pledges.

Here is a complete consensus authentication model:



1. The student group needs to submit a certain number of CFE tool tokens to the capital pool to obtain certification.
2. Each part of the certification certificate of each student will be randomly shuffled and assigned to the audit pool
3. Different certificators pledge a certain number of CFE tokens to form a certification group to conduct iterative audit of the certification materials in the audit pool
4. Based on the capital pool, audit workload and the credit value of the certificator, the certificator can be rewarded with pledged tokens from the capital pool for each audit of certification materials.

CertificateDAO Future

Smart contract project rating agencies

After accumulating long-term educational resources and certification group resources, CertificateDAO established a smart contract project rating agency on the basis of both. The rating agency mainly conducts credit and capability ratings for contract projects in the market. As an important investment reference for public investors.

Blockchain Authentication Service Center

CertificateDAO does more than just provide DFA competency certification NFT. CertificateDAO will continue to evolve a variety of competency certification services based on the continuous progress of its blockchain ecosystem. In particular, certification services are essential in the meta-cosmic ecosystem.

In the future, certification service centers will be developed to serve different information certification services in a variety of ecological environments.

roadmap

Initial planning

CertificateDAO's initial planning focuses on community building and providing basic services to community users. The main production directions are as follows:

1. Infrastructure construction of educational resource communities
2. The DFA capability authentication service is online

Medium-term plan

The CertificateDAO platform was established and completed, and then it was publicized on various media platforms around the world, looking for more relevant enterprises and other partners to move in and expand the influence of the platform, aiming to create an open, transparent and fair educational resources and competency certification platform. · Fully expand the platform, develop the underlying blockchain technology, and build the technical system;

- Promotion optimization, through domestic joint community publicity, to achieve viral marketing
- Global publicity and upgrading, jointly promoting the home page of major platforms, etc., to considerably enhance visibility

- Build a global community, initially contact with major global enterprises, establish initial strategic cooperation
- Open financing program, which plans to bring in capital and angel investment worldwide.

Future plans

CertificateDAO will integrate many industries, organize multi-language platforms, carry out global business collaboration, and create a trillion-level platform. At the same time, ping Taiwan will go centralized to UniSwap and continue to contact more exchanges to actively promote ping Taiwan's overseas listing plan and the international influence of CertificateDAO project.

- CertificateDAO establishes a global ecosystem including smart contract project rating agency, blockchain certification service center, etc., and implements the implementation of platform technologies.
- Take strategic industries as the core, layout the payment mode of all scenarios, and build more dark web application scenarios based on this
- To create an inclusive, borderless educational resource community and competency certification infrastructure for billions of people around the world, so as to make education resources inclusive and competency certification accessible.

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