HCE

Health Care Ecosystem Platform

Innovative digital medical health ecology

Summary

The Health Care Ecosystem Platform ("HCE Platform") is committed to building a digital healthcare infrastructure that addresses the current medical dilemma and provides a better medical experience for users. HCE minimizes the possibility of information leakage through the underlying blockchain encryption technology, decentralized management, and smart contract technology. The authority to access medical data is handed over to the user by the medical service provider, and the user has his own control. The right to medical data, flexible access to medical data access and recorded in the blockchain, reducing leakage channels, eliminating the possibility of medical institutions leaking a large number of user health data.

HCE stores medical health data in a distributed data storage space, which fundamentally prevents data loss. Its hash value will be recorded in the blockchain to verify the integrity of the data. When the data is forcibly changed or forged. , will verify the validity and restore the original data. This makes it impossible for the owner of the medical health data to change the saved information at will, ensuring the integrity and reliability of the medical health data. Only through the HCE platform certification is the right to generate new medical records, and all the generation process will be recorded for traceability. On the other hand, if a medical service provider wants to view other people's medical information, it must complete the certification process and can only view it after obtaining the authorization of the information owner.
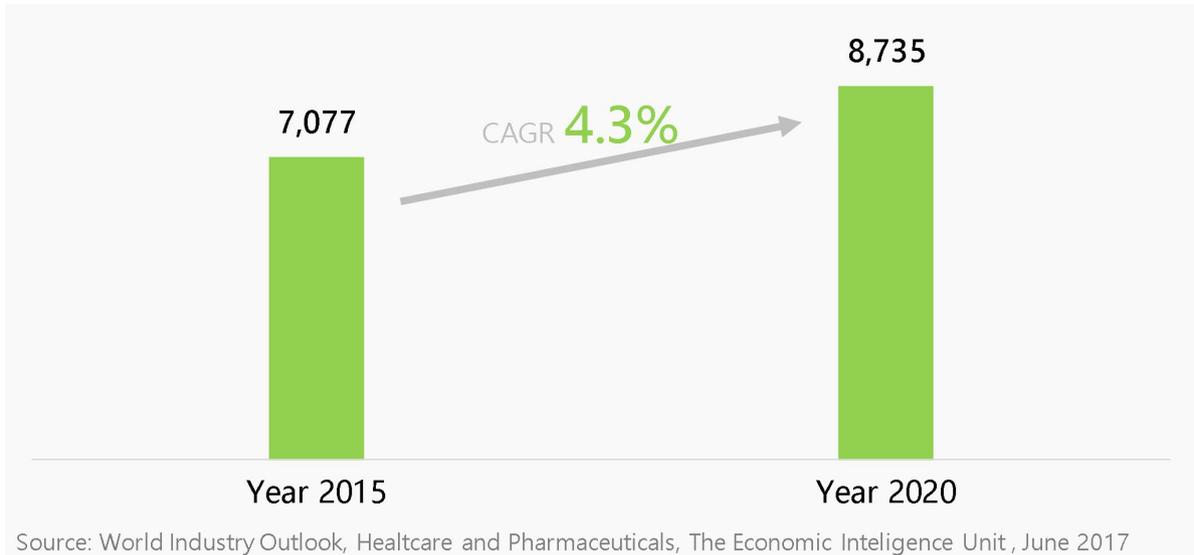
The HCE platform realizes the safe storage and use of medical health data while meeting the requirements of reliability, scalability and security of medical health data, and exerts the maximum value of data, allowing users to experience the convenience and speed of digital medical services. Efficient. The HCE platform provides a rich API and SDK for easy access to health care data on the platform for various applications and services, and attracts more medical institutions, users and organizations to join the HCE ecosystem.

Contents

1: Back Grand

Globally, by 2020, medical expenses have grown by an average of 4.3% per year. How to achieve the maximum effect by improving medical efficiency in the case of less medical resources is an urgent problem to be solved.

Source: World Industry Outlook, Healtcare and Pharmaceuticals, The Economic Inteligence Unit , June 2017

At the same time, due to the increase in the prevalence of chronic diseases and the aging process of the population, the boundaries between the medical field and the consumer sector have also become blurred. On the other hand, from the perspective of data connectivity, the connection between the medical field and the consumer domain does not exist. For example, consumer electronic medical record information is almost never brought outside of medical care. Even if the information is indirectly provided to an external organization, the contact between the medical and pharmaceutical institutions will benefit, and the user will never know the utilization of their information. In addition, users must pay to view their medical information from a medical institution.

Source: mHealth Solutions Markets, Markets and markets, 2017
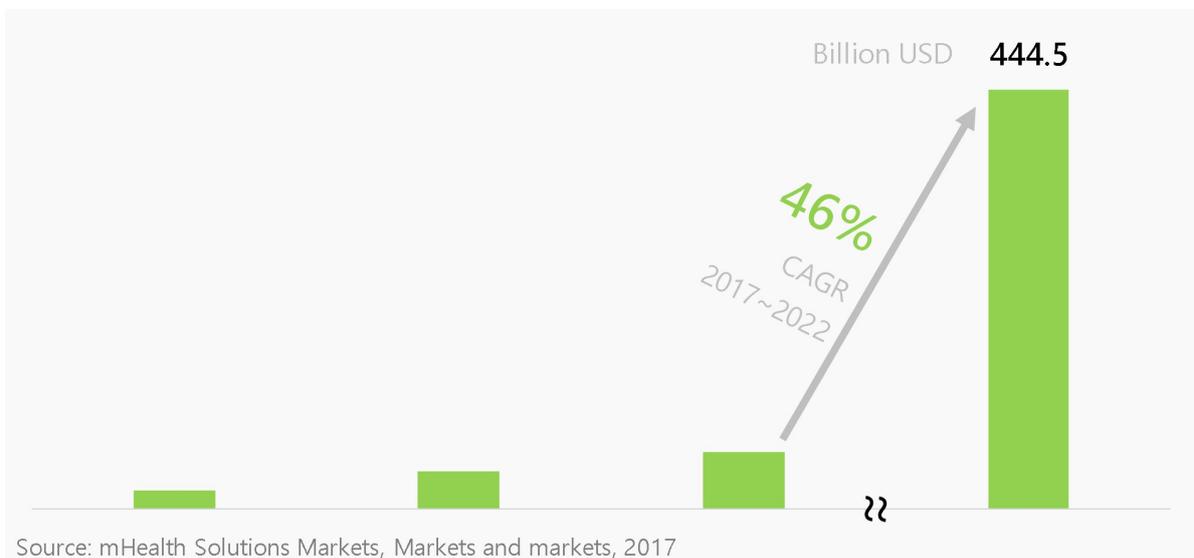
According to research firm Markets and Market, the global mHealth application market has a compound annual growth rate of 46% from 2017 to 2022. By 2022, it is expected to reach $44.45 billion. The market is attractive in terms of market growth and market size.

1.1 Industry Distress poin

The technical problems alone are not enough to stop the development of medical big data, and the red line of laws and policies is always insurmountable. Public medical institutions only have the right to use medical data, and they have no ownership and cannot be exploited. Users are difficult to transfer to and from the hospital, the user's case is easily confused, the user's case data is leaked, and so on. The problem with medical insurance is equally prominent. For insurance companies, insurance management costs are high, and a lot of energy is spent on contract signing and claims checking. The main pain points of the medical industry and users are as follows:

（1）**Medical data is difficult to share**

The medical institution itself is an information island, and it has a huge amount of data but cannot establish effective links. Insurance, pharmaceutical companies, scientific research institutions and other peripheral organizations that urgently need data support cannot obtain medical data conveniently and quickly. It is very difficult and costly for companies involved in medical insurance to obtain data, which restricts the development of the industry. Most of the existing medical data does not have continuity in the time dimension, and various medical institutions do not have a data sharing mechanism and do not have the motivation to maintain data integrity. The technical problems alone are not enough to stop the development of medical big data, and the red line of laws and policies is always insurmountable. Public medical institutions only have the right to use medical data, and they have no ownership and cannot be exploited.

（2）**Data silos hinder medical research and development**

Data silos make it difficult for medical health data to be shared and utilized efficiently.

(3) Conflict between demand and management

There is a serious contradiction between the eruption of personal health management needs and the effective management of health data.

(4) Medical data security issues stand out

The rapid growth of medical data and the centralized storage method make data security issues increasingly serious.

(5) Lack of security and protection of personal privacy

The loss of individual user medical data is not uncommon. Traditional storage methods are less secure, and problems occur in one link, and data security is challenged. Traditional storage mode data backup costs are large, and backup can still be done in the case of a small amount of data. Today, when the amount of data grows exponentially, this storage mode cannot meet the needs.

1.2 Blockchain Development Process

The blockchain 1.0 is called the digital currency. It is represented by Bitcoin, mainly to solve the decentralized management of money and payment methods. The most promising application area in the digital currency era is cross-border exchange, and the leading blockchain enterprise in the cross-border exchange area is Ripple.

The blockchain 2.0 generation is called the era of smart contracts. Represented by smart contracts, the use of smart contracts has greatly expanded the application of blockchain technology and is no longer just the circulation of money. At present, the smart contract era uses the most common underlying technology to support the platform project Ethereum, but the application field with commercial prospects in the era of smart contracts has already shown a trend of blooming. All financial transactions and digital assets can be transformed and used in the blockchain, including financial products such as stocks, private equity, crowdfunding, bonds, hedge funds, futures, options, etc., as well as the right of property rights and the transfer of ownership. , electronic identification, technical patent records, the establishment of long-term contracts, the implementation of smart contracts, and so on.

The blockchain 3.0 is called the generation of intelligent autonomy. It is the generation of blockchain technology and the combination of real economy and physical industry. It combines chain accounting, intelligent contracts and physical fields to realize decentralized intelligent autonomy, exerting the value of blockchain and ultimately transforming society. Business logic, reshaping the trust system of mankind. In the blockchain 3.0 generation, the performance requirements for the underlying support technology itself will inevitably be higher. To some extent, the development of blockchain technology itself may be driven by the performance demands of the blockchain 3.0 intelligent autonomy generation.

The application scenarios of blockchain technology are very extensive. The improvement of blockchain technology has constantly changed the development direction of various industries. The results of blockchain technology in various industries are also becoming more and more obvious. Medical care is the livelihood field. The more important industries, the negative news that has occurred in the medical industry in recent years has also appeared frequently. What effect will it have when medical and blockchains are combined?

1.3 blockchain + Medical

The advantages of blockchain technology itself cannot be ignored. The blockchain has the advantage of being non-tamper able, so that medical data can be recorded on the blockchain, so that the data can be encrypted and cannot be tampered with, and the medical industry can protect data. The most effective method, while blockchain technology can also trace the source, thus avoiding the proliferation of counterfeit drugs.

Regarding the patient's medical data. For example, the current medical data of patients is difficult to obtain at critical moments because of moving, work, and the like. When a patient encounters a life-threatening disease and the patient is unable to tell the case, it is easy to miss the opportunity for treatment. The addition of blockchain technology can completely change the way patient data is stored and transmitted and provides a fast information channel for medical practitioners through data chaining.

Blockchain technology can also protect the privacy of users, not revealing the user's case, recording the user's information on the blockchain, using encryption technology to protect the user's information, and also helping the doctor to better observe the

user's condition. The blockchain enables a complete record of the entire lifecycle of the asset, and when the asset flows through the supply chain, both the user's health record and all the records of a bottle of pills are clearly visible.

2： HCE Platform

The Health Care Ecosystem Platform ("HCE Platform") is committed to building a digital healthcare infrastructure that addresses the current medical dilemma and provides a better medical experience for users.

2.1 HCE Platform summary

The vision of the HCE platform is to combine the blockchain technology to create an innovative digital healthcare ecosystem that combines blockchain with medical big data to address many of the current problems in the medical big data industry. The HCE platform gives users the highest level of authority to manage their own data, allowing users to control their own medical information, including who has access, what information to access and the time limit for access, and the entire process is based on security and transparency. To avoid unauthorized access, use, disclosure, destruction, modification, destruction, etc. More importantly, personal privacy will not be leaked throughout the process.
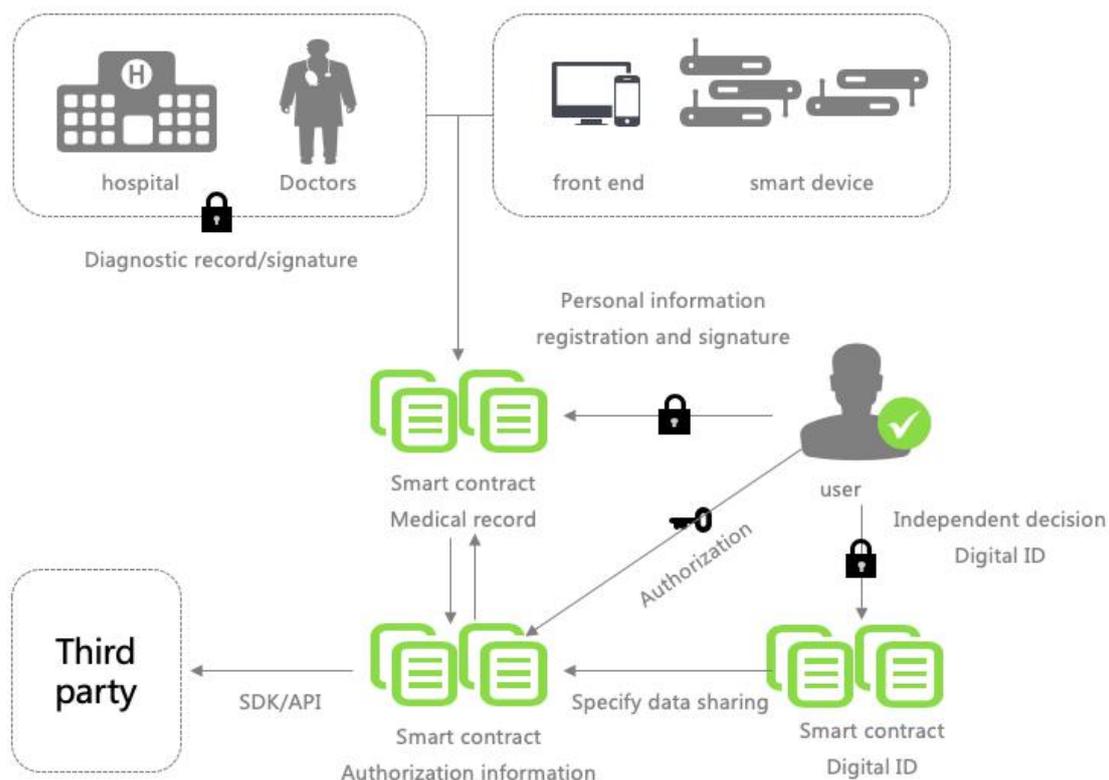
HCE is built on the structure of distributed ledgers, which provides multiple levels of permissions, allowing users to control who can view his personal data, how much content he can see, and how long it takes to see. The authenticity of medical data is critical to subsequent big data analysis and even treatment. HCE utilizes blockchain and smart contract technology to decentralize, not tamper with other advantages, and store data in a dual blockchain structure. All is transparent and does not require the involvement of third-party organizations. In addition, HCE works with multi-disciplinary health agencies, such as doctors, hospitals, medical laboratories, pharmacies, and insurance companies, to give them permission to interact with platform data under certain conditions. Each interaction will be documented on HCE's distributed ledger and will be auditable, transparent and secure. HCE convinced medical staff of the integrity of medical records because users have only 'read-only' privileges, and certified and certified clinicians will get a 'read-write' license.

2.2 HCE Characteristic of Platform

The HCE platform can reduce communication and medical costs. When patients are in urgent need of surgery, a series of tests are required under traditional conditions, which not only increases the cost, but also delays valuable time, but may occur if not checked. Medical malpractice. With HCE, all information from the user to the present is stored in the chain, and the attending physician will know the user's past information for the first time, thus omitting unnecessary steps. This also applies to users and hospitals, private doctors, pharmacies, insurance companies and other health care institutions. On the one hand, the HCE platform can reduce insurance fraud, it is estimated that 5%-10% of medical health costs are gray, either over-billing or chaotic projects. For example, in the United States alone, the gray medical income in 2016 reached $30 million. A blockchain-based system can solve such gray charging problems. The blockchain system automates most billing and payment procedures, bypassing intermediaries, reducing administrative costs, and saving time for both patients and healthcare organizations. In addition, the blockchain can solve the large-scale logistics information tracking problem in RCM (Reliability-Centric Maintenance). Through HCE, personal information is accurate, true and not tamper able, and will effectively avoid insurance fraud. At the same time, it can also reduce the premium cost of the insured.

3: HCE Service Advantage

Users will have their own personal medical data accounts from the time of registration, thus solving the pain of individuals' lack of right to know and access control of their own medical data, and because of the use of blockchain, it is no longer difficult to trace, personal medical care The traceability of the data can greatly reduce the medical cost of the user's disease history check in the secondary medical process; since the blockchain book is established and the public chain is established, the decentralization feature can perfectly solve the medical data security. The problem, and the effective protection of personal privacy; set the authorization extraction mode for the data island problem in the medical field. That is, authorize those public medical institutions or R&D institutions in the medical field to give them permission to extract non-identity information of all nodes. Under this authorization extraction mode, medical institutions can obtain specific data on the occurrence of certain diseases in each country, each region, each time period, each age group, and gender, and the concurrency of multiple diseases, but they cannot correspond. Specific individuals. On the one hand, it effectively solves the problem of data islands in the medical field, and on the other hand, it perfectly protects the privacy of individuals. The contradiction between medical data management needs and effective management, in the decentralized management mode of blockchain, there is no management contradiction.

The traceability of the blockchain can even preserve the medical records of individuals for decades. In the process of responsibility for medical accidents, it can also provide convincing evidence for determining the responsible subjects. The blockchain's traceability, non-tampering, decentralization, and quasi-anonymity can solve many problems in the field of medical data.

1. Distributed Storage Guarantees Data Security

The blockchain adopts data multi-node and distributed multiple access to get rid of the dependence on the Internet center server, avoiding the possibility of the central server tampering with data and losing data at a single point. And users can view the patient's historical data and user data at any time, thus eliminating the risk of data loss. This can also effectively improve the efficiency of the industry. When the user is visiting a doctor, the doctor does not need to give the user relevant checks that have been done, and directly view the historical data, which greatly saves manpower and material resources.

2. Asymmetric Encryption Guarantees User Privacy

With the development of society, on the one hand, people pay more and more attention to personal respect and privacy. On the other hand, the characteristics of the medical and health field require users to disclose their own information. At the very least, they are open to the hospital during the medical treatment period, so that they can be effective. Solve the problem of medical treatment. The characteristics of encryption and decentralization of the blockchain cater to the user's request for privacy information protection. On the one hand, the relevant information can be disclosed to the hospital, so that users can receive the best medical services, and on the other hand, they can effectively do the anonymity. Processing, even if the information is disclosed, the protection of the user itself can be maximized.

3. Community Autonomy Promotes Information Sharing

Most medical data are available in hospitals and individual medical device manufacturers. Different providers often use different database systems to store medical data, and there is no good coordination between each system. On the one hand, the blockchain can guarantee the realization of data sharing function on the one hand; on the other hand, from the perspective of community autonomy, it can promote everyone's data sharing. Similar to the R3 alliance, the participants in the alliance are related according to the alliance rules. The data is shared and will be subject to appropriate incentives or penalties. While ensuring security, privacy and reliability, the blockchain itself has openness and transparency. From hospital to user, the whole process can be guaranteed. Taking electronic medical records as an example, in the future, a blockchain electronic medical record system can be created. All medical and physical health data of users are stored in the chain, which is convenient for doctors to have a comprehensive understanding of users and can avoid the need between hospitals. The problem of information asymmetry caused by transfer to the hospital requires the user to repeat the same diagnosis.

4. Smart Contract Improve Process Efficiency

The biggest role of smart contracts is to automate the execution of related program processes, reduce the number of people involved, and improve efficiency. The blockchain system automates most billing and payment procedures, bypassing intermediaries, reducing administrative costs, and saving time for both patients and healthcare organizations. And this series of funds and process data can provide an

effective basis for the later insurance claims and bill management. On the one hand, it can reduce the gray costs of fraudulent insurance and false accounting in the medical and health field, on the other hand, it can also improve the verification. effectiveness.

5、 Increased security and reduced cyber risk

The blockchain ensures the security of the data exchange system and prevents the data from being modified through encryption and distributed storage. With the increase in various types of self-use medical devices, and most of them are Internet of Things devices, people's healthy living data will become more and more in the future, and people are increasingly demanding data leakage and privacy protection. The blockchain provides data interoperability between devices while ensuring security, privacy and reliability, effectively reducing the risk of data storage and transmission.

At present, the blockchain-related encryption technology has made great progress, and even many blockchain projects focus on the field of data encryption technology. For example, multi-party computing technology (sMPC) performs encryption by decomposing data to be calculated into multiple fragments, and assigns it to multiple nodes for calculation, ensuring that each node cannot decrypt the original data according to individual fragments. The blockchain can encrypt the user's private information that needs to be kept secret, ensuring that the information is only propagated or shared under a specific scenario, and the other parties cannot decrypt the original information even if intercepted.

4： Application Scenario

4.1 digital Medical Recode

If the medical record is imagined as a book, it is originally in the hands of various hospitals. The users themselves do not have mastery, so the patient has no way to obtain their medical records and historical conditions, which will cause great trouble to the user. Because the doctor cannot fully understand your medical history. But now if you can use HCE technology to save, you have complete historical data of personal medical treatment, medical treatment, planning your own health, there are historical data available, there will be precision treatment and disease prevention Valuable value.
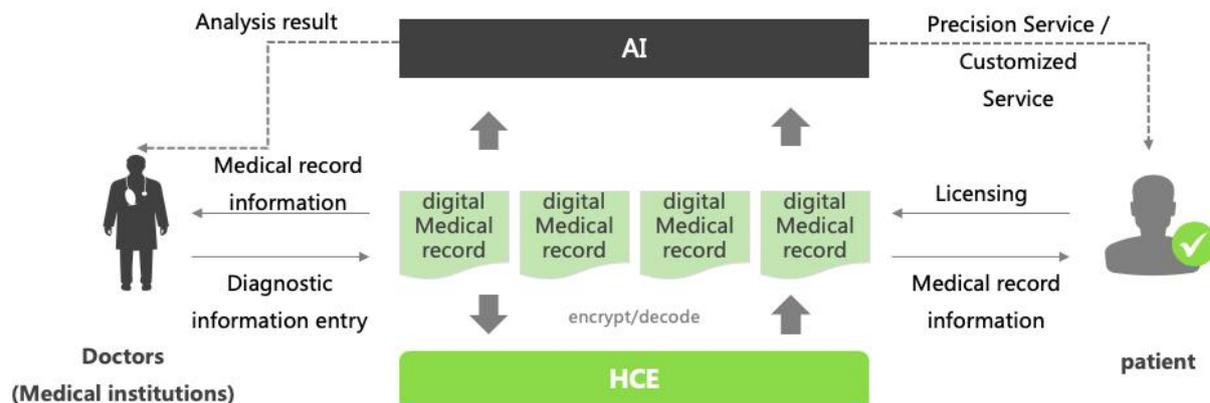
Moreover, the true master of this data is the user himself, not a hospital or a third-party organization, which eliminates the friction of medical information, including information imperfections, information risks and inaccessibility of information, as well as protecting the privacy and security of data. There's important meaning.

4.2 Medical Cost and Payment

In terms of payment and costs, blockchain technology not only promotes the development of cryptocurrency, but also effectively prevents fraudulent activities such as fraudulent protection and reduces the waste of medical resources. The total annual medical expenditure in the world exceeds $7 trillion. Among them, individual consumers pay nearly 18% or $1 trillion directly at their own expense each year. This is true in both single-pay and commercial-insurance countries. Despite the huge economic expenditure, the medical service ecosystem is not perfect enough to allow consumers to take the initiative of economic entities. Consumers may not know what the cost of some medical services is, or how much they should spend. The HCE platform can help users determine the amount of self-payment in advance before receiving treatment and can also provide services such as prepayments to avoid unexpected costs, and medical institutions can reduce uncollected payments.

4.3 Personal Health Management

Most health management is achieved in activities outside the health care system. In particular, as the number of chronic disease users worldwide has increased year by year, health care systems around the world are facing increasing costs. Based on HCE health management capabilities, it operates in a smart home/office environment, allowing users to securely track and collect personal health data. Most of this data comes from networked wearables and other home monitoring devices. In this

application scenario, smart contracts will be used in medical health identification to trigger alerts of potential emergency health conditions in case of an emergency and to communicate appropriate information to clinicians and family members.

4.4 Precision Medicine

Blockchain is expected to make precision medicine mainstream. Precision medicine, defined as a privately-tailored treatment based on personal health data (medical history and genetics). Because the blockchain can capture and utilize personal medical records (PHR) and related population health data, healthcare providers are expected to provide regular, personalized treatments.

Imagine in the not-too-distant future: a male user of African-American who is having difficulty breathing is suffering from heart palpitations and headaches. He provided his PHR when he went to the clinic to see a doctor. The clinic can get the PHR but use AI-based tools to select the appropriate population health data and then provide a list of three potential diagnostic results. The doctor selects the most likely diagnosis and then goes to the system that contains the population health data to find out which treatment is optimal for the particular population of the patient. In the end, the doctor will select the most cost-effective, most effective and most effective treatment for this individual patient.
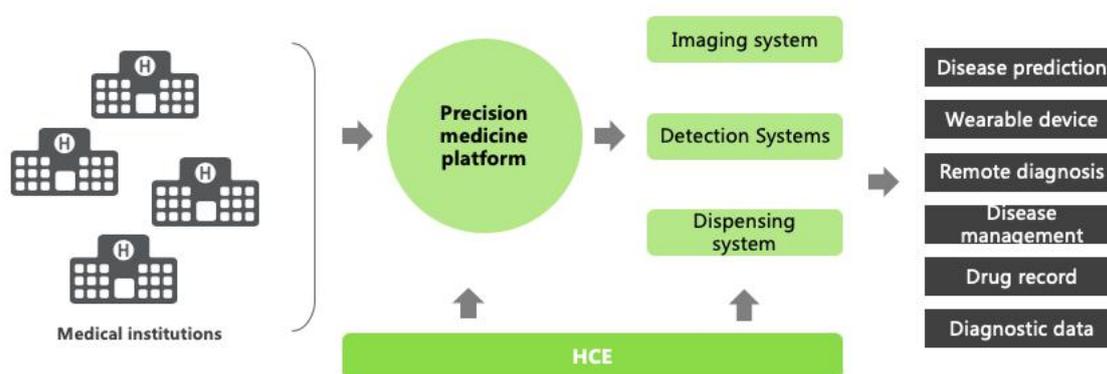
The blockchain's ability to enhance data security, shareability, and interoperability, combined with more sophisticated technologies such as big data, AI, and ML, will spur the next revolution in the medical arena.

5: Economic model

HCE Token (HCET) refers to the original encryption certificate on the HCE main chain. Initially, the ERC-20 Token was issued based on the Ethereum platform, with a total of 182,500,000, and will never be issued. After the HCE main chain goes online, the 1:1 exchange will be completed through the acceptance gateway.

HCET is dedicated to the HCE ecosystem and serves as a special voucher to experience medical services and transfer value in the HCE ecosystem. The system distributes and balances fairly to motivate those who use and contribute to the ecosystem in the long term. Create a better healthcare ecosystem with a fully automated and open decentralized platform. The role of HCET:

- Internal settlement services

- Purchase and payment of medical examination services.

- Cross-platform payment for medical diagnosis and consulting services

- Transaction fees and the creation of smart contracts for Gas.

- Incentives to promote ecosystems.

5.1 Distribution Plan

20% of the total HCET (36,500,000 HCET) is used for marketing and 80% (146,000,000 HCET) for mining.

20%（36,500,000 HCET）Marketing

The Foundation is mainly used for marketing, ecological incubation, invitation promotion, business development, legal compliance, etc., to maintain the rapid formation and subsequent healthy and sustainable development of the community and the entire ecological environment.

80% (146,000,000 HCET**) Mining Incentive**

Users can provide computing, resource support, registration invitations and other services for the HCE network to receive rewards.

5.2 Repurchase Mechanism

At the end of each financial year, the HCE Foundation will repurchase HCET in the secondary market with no less than 20% of the net profit of the year, and establish an independent destruction account (black hole address) to permanently destroy the repurchased HCET (destruction rules will be on the HCE official website). On the real-time release), the HCE Foundation will announce the repurchase and destruction records at the first time. Anyone can check the HCE block browser at any time to facilitate community and public supervision to ensure transparency.

Note:

The amount of HCET destroyed in each financial year is controlled within 1% of the total until the total amount is 100 million HCETs. If the amount of HCET repurchased in the current year is higher than 1% of the total, destroying 1% of HCET, the remaining HCET will be issued to HCET holders in accordance with the rules (the relevant details will be published on the HCE official website in real time) to reward users. Contribution to the HCE network and support for the HCE ecosystem.

6、 Technology Architecture

The overall architecture of the HCE platform can be divided into four layers: the base layer, the network layer, the service layer, and the application layer. Together with the safe operation and maintenance of the entire system and the surrounding ecosystem together constitute the HCE ecological platform.
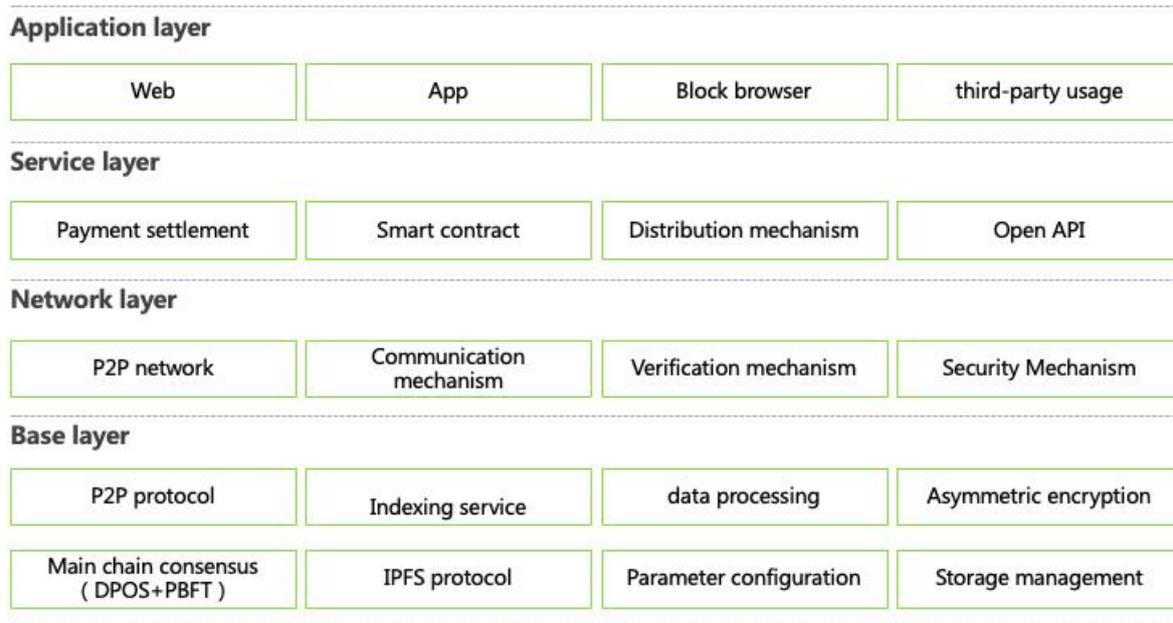

6.1 DPoS+PBFT Consensus Mechanism

The consensus mechanism is the basis for ensuring the sustainable operation of the HCE ecosystem. On the public ledger, the data of all data nodes is required to be consistent, and the coordination and conflict resolution of all nodes is solved through a consensus mechanism. In this process, HCE uses a cost-effective DPoS consensus mechanism. Compared to PoW's need to use computing power to compete for the final data write decision, DPoS will decide to hand over to the super node on the chain to vote, avoiding the waste caused by the power competition. At the same time, the super node is relatively stable, which ensures that the data exchange between nodes is very fast and can increase the transaction speed.

The super nodes on the HCE are elected by the community. All ordinary nodes can participate in the voting, select the super node, and let it vote for the consensus node. After the super node generates the block, it gets a reward.

Block Mechanism
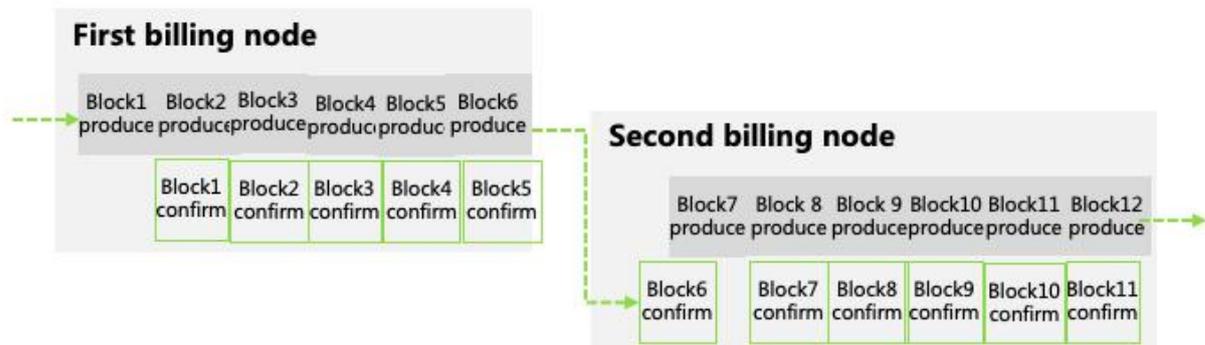
The super node selected by the vote is responsible for specific transaction verification, packing, confirmation, and outbound operations

- On the main chain, each node generates blocks according to the operation list, each node generates 6 blocks per round, and the interval time of each block is about 1 second

- The current accounting node obtains the transaction data TXn, verifies the transaction, and broadcasts the production block to all nodes, waiting for other nodes to perform signature verification

- After receiving 2/3 of the super node confirmation, the status of this blockchain is finally confirmed and cannot be changed.

6.2 multiple Encryption

In the HCE system environment, the privacy information, usage data, storage location and other information on the chain are encrypted multiple times, and the key is given to the relevant participants. On the one hand, it will greatly increase the difficulty of attacking the black pet. On the other hand, even if a single node is broken, the difficulty of data analysis will make the attack behavior very low or even worth the loss, thus greatly reducing the willingness to attack.

Peer-to-peer, the preservation of private data uses a combination of symmetric encryption and asymmetric encryption. The symmetric encryption algorithm uses the

same key for both encryption and decryption, and both parties must obtain the key and keep the key of the key. The public key and private key used by the asymmetric key encryption system are different. Symmetric encryption has high speed against encryption and decryption and is difficult to use when using long keys, but passwords are not easy to manage. Asymmetric encryption and encryption are easy to issue and manage. They can be digitally signed and cannot be rejected. However, the operation speed is relatively slow. The combination of multiple encryption methods used in the HCE design process not only ensures the reliability of the password, but also applies to high-speed encryption.

6.3 Data Desensitization

Data sharing and privacy protection are a natural contradiction. Block-based data desensitization technology can ensure the effectiveness of data sharing in the case of data desensitization. The desensitization of blockchain data mainly uses HASH desensitization.

HASH desensitization only protects the individual's basic privacy from being compromised. Medical data has its own particularity. Even if the desensitized data is still likely to be abused by the data purchaser, the purchaser uses non-sensitive information such as the location of the doctor, the hospital for medical treatment, etc. to want to sell drugs or services to specific groups of users. In the HCE network, in addition to using HASH desensitization to ensure privacy, in order to prevent possible bad behavior of the data purchaser, the HCE super node will be set to check the retrieval and use of data in a fixed period, once found Suspicious data usage behavior, will vote to decide whether to reduce the authority of the offending account, and even permanently block its data access on the HCE network.
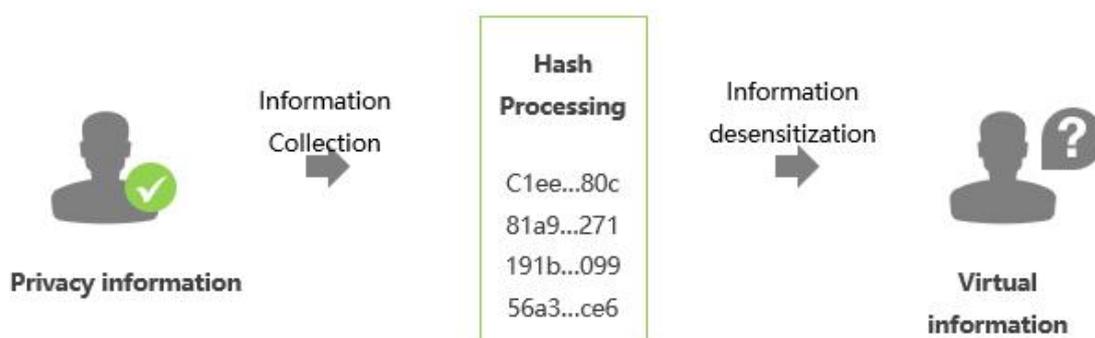
6.4 HCENode

The team, hardware and software resources and users, in accordance with specific development needs, campaign for super nodes and alternate nodes.

Super Node (9 node)

In order to successfully launch the HCE ecosystem, the HCE Foundation will coordinate the formation of nine founding nodes, which are the first super nodes, responsible for the development and continuous improvement of the governance charter, important strategies and operational rules. Assist the HCE Foundation in platform development, marketing and resource docking and strategic cooperation tasks. Review the newly joined super nodes. The platform gives the super node the billing right, and the billing success can get a certain amount of Token reward. To become the new super node of HCE, the new organization needs to obtain the unanimous consent of 2/3 super nodes and hold no less than a certain amount of HCET (3 million).

Alternative Node (20 nodes)

To become a new candidate for HCE, the new account needs to obtain the unanimous consent of more than 50% of the super nodes and hold no less than a certain amount of HCET (1 million).

About Join to node and exit

To join a new node, you must first purchase and lock a certain number of HCETs through the consent of more than 50% of the super nodes to become an alternate node. You can then participate in the election and election of the super node. In addition, nodes that do evil or hold HCETs below 10 million will be removed from the list of alternate nodes.

6.5 Distributed Storage (HCE-FS)

Distributed storage systems are a permanent, distributed way to store and share files. This is a distributed protocol for content addressable, versioned, peer-to-peer

hypermedia. Content Addressable: A file is generated by generating a unique hash value from the file content, rather than by the file save location. Files with the same content will only exist in the system, saving storage space. Versioning: Traceable file modification history. Point-to-point hypermedia: Saves a wide variety of types of data.

  Think of the Distributed Storage System (HCE-FS) as all file data is in the same BitTorrent group and accessed through the same Git repository. Using the non-tamper able nature of the blockchain, key original files are saved. Once these files are binding, they are stored in the blockchain through the Distributed Storage System (HCE-FS). The addresses of these files are saved. In the smart contract, the user can obtain the original data through a license (private key), and the data will not be tampered with by anyone. For the pictures, audio, video, documents, etc. of the HCE platform, the distributed storage system (HCE-FS) addresses of these files are solidified into smart contracts, and the user can obtain the original materials through a license (private key), and these The information will not be tampered with by anyone.
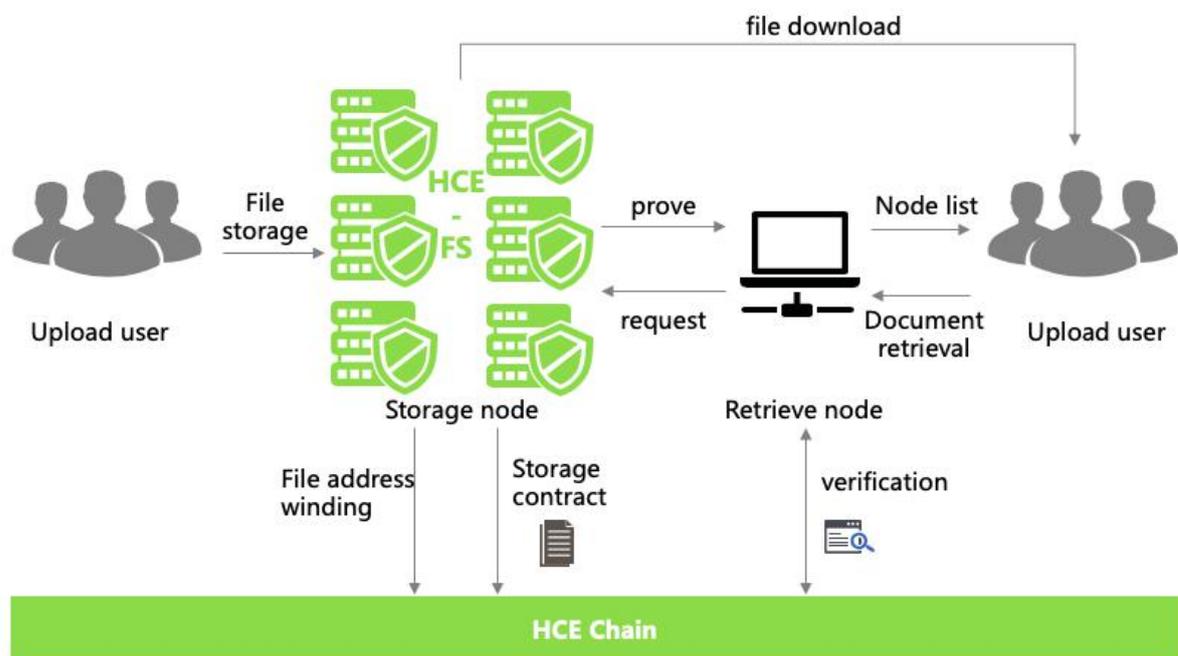
7:Development of Road Map
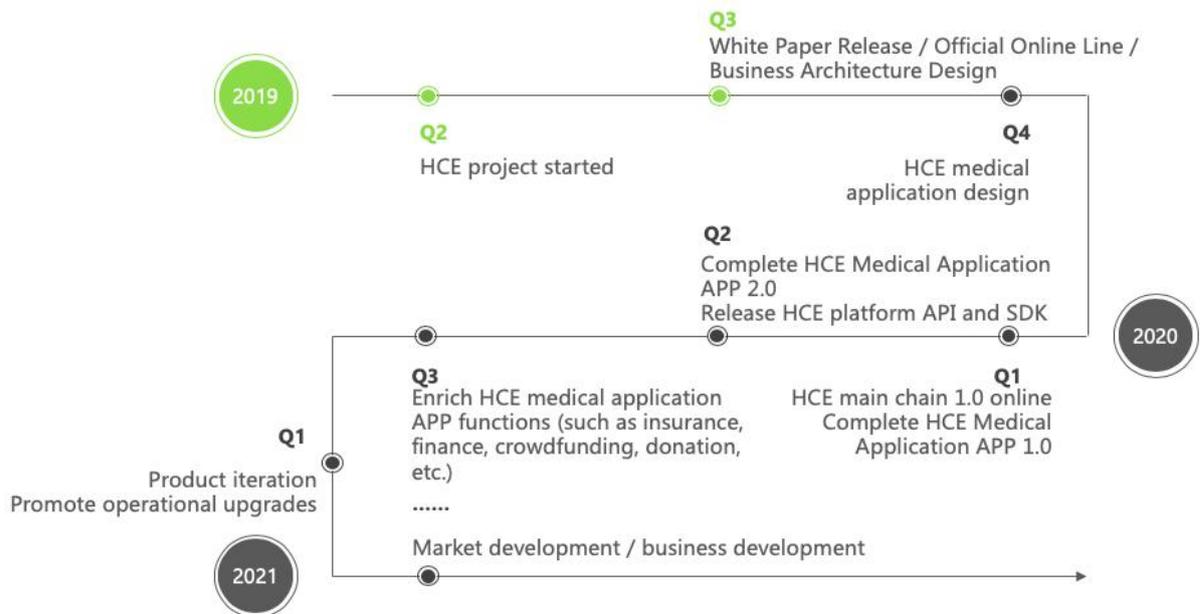
8: HCE Team

Mark Henry

Ph.D. in Computer Engineering from the University of Alberta, focusing on artificial intelligence and large-scale machine learning, and publishing several academic papers in top international journals and conferences. More than 10 years of experience in the health care and medical industry. Expertise in big data analytics, data processing, predictive analytics and real-time systems. He has managed excellent data transmission teams in countries such as the US, Canada and Singapore.

Alice Johnson

Master of Medicine from Stanford University, with extensive experience in operations management in the field of medical and health, specializing in marketing management and corporate development strategies.

Eason Clinton

The head of medical development has 15 years of software technology research and development, medical software project management and related teaching and research experience and has been involved in the frontiers of mobile software, cloud computing, big data, deep learning and other technologies.

William Rowswell

Blockchain system architect, years of experience in blockchain technology development. Familiar with the multi-generation virtual currency and blockchain product underlying code technology, has served as a well-known project developer.

9: Governance Structure

In order to ensure the transparency of the operation of the HCE project, the HCE Media Foundation was established overseas to ensure the normal operation of the project and to manage the use of funds. The organizational structure of the HCE Media Foundation will consist of community meetings and executive committees. The community conference is the conference of all HCET holders. The community conference is the highest decision-making body of the project. The HCET holders have the right to vote, vote and be elected at the community conference. The Executive Committee is responsible for the daily operation and maintenance management of HCE. It consists of R&D center, business center, finance department, legal compliance, comprehensive affairs, market operation and other functional departments to complete the corresponding tasks.

Community conference				
Executive committee				
R & D Center	Business Cooperation	Financial integration	Legal compliance	Market operation

Community Conference

The community conference consists of all HCET holders and is the highest authority of the HCE project, exercising the following powers:

• Amend the HCE Management Charter.

• Supervise the implementation of the HCE Management Charter.

• Election and change executive committee management members.

• Revoke an inappropriate decision of the Executive Committee

• Approve major changes.

The HCE Management Charter is the fundamental criterion for HCE governance, and the management charter will be publicized in official channels. The first edition of the management charter was published by the Executive Committee. The community meeting is held once a year. If the HCE Executive Committee deems it necessary, or if more than one-fifth of the HCET holders propose, the HCE community meeting may be held temporarily.

Executive Committee

The Executive Committee is responsible for the day-to-day operation and management of the HCE project. The Executive Committee has one CEO and the CEO is responsible for the Executive Committee. The Executive Committee members are mainly heading of various functional departments.

The CEO of the Executive Committee exercises the following duties:

- To conduct daily operations management and organize the implementation of the Executive Committee resolutions;

- Formulating a basic management system

- Decide to appoint or dismiss members of the Executive Committee or other senior management;

- Develop solutions for open source code issues and funding use issues.

Audit

The HCE Executive Committee must maintain high standards of integrity and ethical business conduct standards. Comply with relevant laws and regulations and industry self-discipline principles. Provide transparent financial management, invite world-renowned third-party audit institutions to evaluate and audit the fund's use of funds, expenses, profit distribution, etc., and the results of the evaluation and audit will be unreservedly disclosed and published on official websites and communities.

Information disclosure

In order to protect the interests of investors, strengthen the supervision and use of digital assets, and promote the healthy development of HCE projects, the information disclosure system is set up: the annual report is prepared and disclosed within three months from the date of each fiscal year. The report includes but is not limited to HCE project technology development progress, operation status, digital asset management, core team members' performance and change, financial revenue and expenditure status, important business cooperation matters, and legal proceedings involving HCE.

10: Tips and Disclaimers

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HCET is a non-refundable functional HCET that will be used as an exchange unit between participants on the HCE platform. Under no circumstances will HCET make any representations about any equity, participation rights, rights, title or interest in the management, the issuer, its subsidiaries, or any other company, business or operator, HCET will not Giving HCET holders any promise of fees, dividends, income, profits or return on investment that does not constitute securities in Singapore or any relevant jurisdiction. HCET is currently intended for use in HCE, and the ownership of HCET does not have any express or implied rights other than the right to use HCET as a means of use and interaction within the HCE platform.

As far as HCET is concerned, the following points need special emphasis：

a) It is non-refundable and cannot be exchanged for cash (or any other virtual

currency equivalent) or any payment obligation of the regulatory agency, issuer or any subsidiary.

b) It does not represent or grant to the HCET holder any rights in any form relating

to the governing body, the issuer (or any of its subsidiaries), or their income or assets, including but not limited to any future dividends, income, shares , title or equity, share or security rights, any right to vote, assign, redeem, liquidate, proprietary (including all forms of intellectual property or licensing rights), or other financial or legal rights or equivalent rights, or knowledge Property rights or any other form of participation in or relating to HCEs, regulatory agencies, issuers and/or their service providers.

c) It is not intended to state any right under any CFD or any other contract for any

purpose or surface purpose to ensure profit or avoid loss.

d) It is not intended to state any right under any CFD or any other contract for any

purpose or surface purpose to ensure profit or avoid loss.

e) It is neither a loan to the governing body, the issuer or any of its affiliates, nor is it

intended to make a statement about the debts of the governing body, the issuer or any of its subsidiaries, and it does not expect to make a profit.

f) It does not provide HCET holders with any ownership or other interest in the governing body, the issuer or any of its affiliates.

  Investments in HCET sales will be held by the issuer (or its subsidiaries) after the sale of HCET, and the investee will not have economic or legal rights or beneficial rights to these inputs or the assets of the aforementioned entities after the sale of HCET. If the secondary market or exchange trading HCET is developed, its operations and operations will be completely independent of the management, issuer, HCET sales and HCE. Neither the regulatory agency nor the issuer will create such a secondary market, and any one of these entities will not act as an exchange for HCET.

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