BitEDU

The World's first ecosystem for decentralized and sharing education

Education

Career Skill

Opportunity

EDU copywrite

EDU Fin

EDU certificate

EDU application

EDU job

ev

EDU data

EDU Tech

EDU Share

EDU competition

EDU incentiv

"But ultimately, there's one investment that supersedes all others: Invest in yourself. No one can take away what they have learned. Everyone has such investment potential."   ---Warren Buffett

"In my whole life, I have known no wise people (over a broad subject matter area) who didn't read all the time - none, zero. You'd be amazed how much Warren reads - and at how much I read. My children laugh at me. They think I'm a book with a couple of legs sticking out."
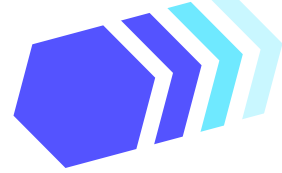   ---Charles Munger

"We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don't let yourself be lulled into inaction. Even if our predictions for the future are always wrong, we still need to take action because the best way to predict the future is to create it."

---Bill Gates
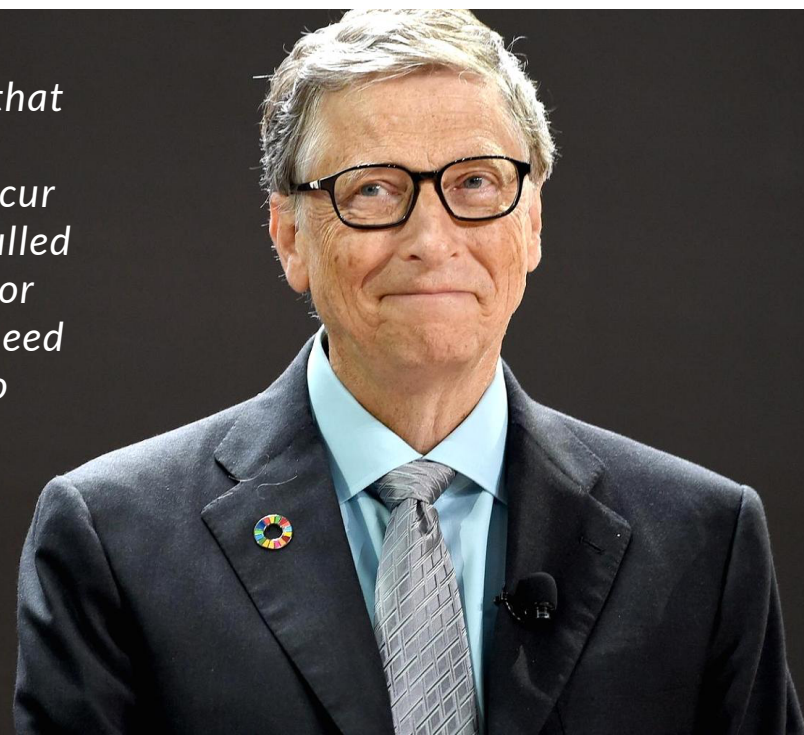
Abstract

The mission of BitEDU is to create a public blockchain education ecosystem. Focusing on everyone's learning growth path, it vertically subdivides the industry, and continues to attract new participants. It constructs a lifelong education ecosystem and realizes lifelong learning incentives through an open and transparent economic system, to achieve point-to-point information symmetry as well as the elimination of the marginal cost of intermediaries. One can obtain lifelong benefit through the Token mechanism, share win-win opportunities for mutual education, and create equity in education.

The BitEDU public blockchain uses BEU as a medium and builds various application scenarios based on blockchain technology and smart contracts for users to meet their lifelong learning trajectory, such as learn & share, education crowdfunding, job recruitment, and competition events. The Token will be accompanied by a life cycle and used in different scenes. Each time and every stage of the efforts will be marked for the accumulation and embodiment of learning value.

The BitEDU public blockchain fully supports developers to use, develop and access their applications and resources. By providing the DApp, API, SDK and other items for core applications, the value transfer and Token consumption can be realized by deployment in the open community platform.

The BitEDU public blockchain fully supports ecological partners to facilitate the application/ development of resources and achieve resource realization, promotion, and the acquiring of new users. Eventually, it will create a lifelong education ecosystem blockchain platform that is decentralized, worldwide, spreading into the industry, rights and interests sharing, and value co-producing.

The BitEDU team has a strong technical background as well as industry resource integration capability. They have achieved an agreement on the cooperation of the blockchain with communities, taking into account different application scenarios and user scales, resources providers, as well as services providers, in order to build a lifelong education ecosystem public blockchain collaboratively.

Step1   Basic Application Architecture – DApp & BEU;

Step2   User Import and Precipitation- Resource opening and sharing platform;

Step3   Education Ecosystem Scenarios- Crowdfunding, job application, job recruitment, competition, entertainment and other own/ third party application accessing;

**Step4**   Bottom Public Blockchain Development- BitEDU public blockchain.

Contents

Chapter 1. Background and Opportunities

1.1 Scale of the Industry

According to the education and technology trend report published by Edtech Europe, 6 trillion US dollars were expended for global education in 2017 which is 8 times greater than software industries and 3 times greater than media & entertainment industries. Education spending is predicted to increase 8% annually (higher than the 4% GDP annual growth rate) and will be expected to reach 8.1 trillion US dollars in 2020. Specifically, the growth rate in Asian-Pacific region is the highest reaching 20%. In 2020, education spending in Asian-Pacific region will occupy 54% global education and technology industries.

The population of Asia is 4.4 billion, 60% of the total world population. 600 million are K12 students, which is 10 times the number in the US. Some reports say that in 2020 family education spending, mobile device usages in Southeast Asia, and mobile data will be 6, 5 and 8 times greater than now.
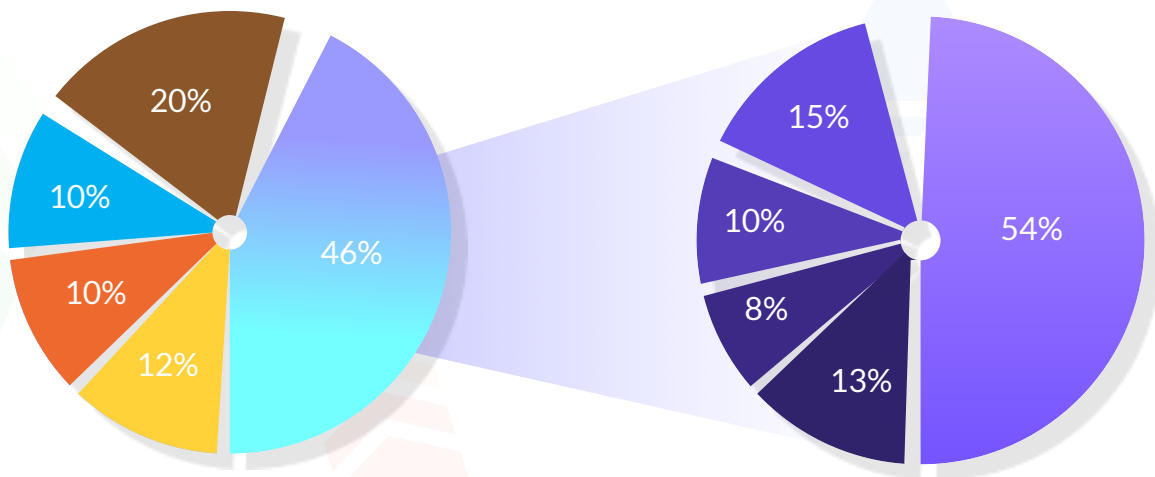
Regional Average Annual Growth Rate (2013-2020)
Asia 20% Middle East and Africa 18% North America 12% Latin America 16% Europe 12%

According to the research report from Mckinsey Global Institute, there will be around 75-375 million people to be reemployed and learn new skills in 2030. The growing demand for scientific and technical skill plays a role in this. For many, lifelong learning will be essential.

12000   Unit: Tens of thousand

9000

6000

3000

0

US   Germany   Japan   India   China   Other developed countries   Other developing countries

With education needs   With employment needs

According to the research report from Mckinsey Global Institute, there will be around 75-375 million people to be reemployed and learn new skills in 2030. The growing demand for scientific and technical skill plays a role in this. For many, lifelong learning will be essential.

4000   Unit: Tens of thousand   45%

3000   30%

2000

1000   15%

0   0

2011   2012   2013   2014   2015   2016   2017   2018   2020
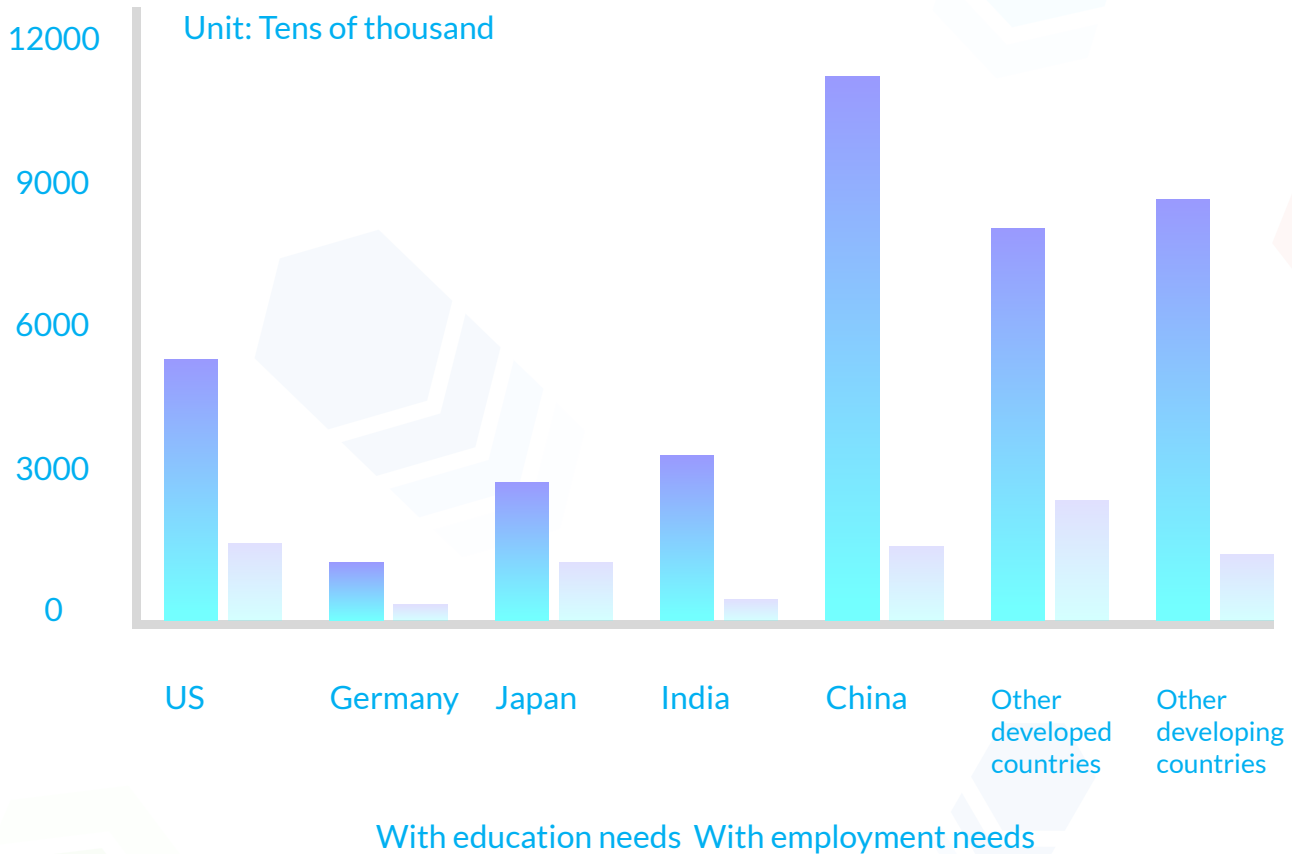
1.2 Consensus

From the mid-1960s, with the promoting and popularizing of lifelong learning from United Nations Educational, Scientific and Cultural organization and other related international organizations, lifelong learning reaches a consensus around the world. Many countries consider lifelong education as foundational, and achieving such it is a primary objective while setting up their education policy and constructing a national education system.

Many national developments have proved that individuals can get a good return by investing in lifelong education. Donald Trump, the current president of the United States, mentioned in the plan to rebuild America: "In rebuilding America we are also fully committed to developing our workforce. We are lifting people from dependence to independence because we know the single-best anti-poverty program is a very simple and very beautiful paycheck. To be successful it is not enough to invest in our economy. We must invest in our people."

Building a fair, just, open and transparent education ecosystem, achieving disintermediation; removing information asymmetry; reducing lifelong education cost and achieving education equity are a matter of worldwide consensus and demand.

For example, the main funding resources for individual's study, growth and development are from society, government and family. However, education cost maintains an annual growth rate of 10%. The rapid increasing of education cost makes the student loan market one of the biggest loan markets. Education cost reaches tens of billions of US dollars every year while many students solely rely on loans to afford tuition, and as a result, lack development funding.

On BitEDU, registering an individual's study, share, and spread etc. as a digital asset. It achieves convenient rights, bonuses and transactions. People can invest directly to the ultimate value creator by changing the investment, expanding the investment community and financing volume. Uncertainty can be dynamically adjusted by market mechanisms to achieve point to point transaction. It's possible to transfer the education investment from governments, enterprises and individuals to which from socialized capital behavior. It will significantly promote individual activity in lifelong education ecosystem and achieve direct results of lifelong education value.

1.3 Marketing Pain Point

The education industry is enormous. Campuses, communities and organizations (online/offline, national education system/extracurricular education, PC/mobile) have the most users and biggest impact. Education & training, education credit, job recruitment and activity contests are the most popular and biggest source of income in education industry.

Education Community

Campus is one of the most important infrastructures for cultural inheritance and innovation in human society. The determining factor of the generation and development of campus is the improvement of social productivity and the innovation of relations of production. Until mobile internet becomes more common, BBS basing on campus has a chance to attract local teachers and students in a short time and achieves easier information communication. As time and technology change, walled-garden BBS will gradually be marginalized. For example, the demand for students who graduate and step into the job market has totally changed. They cannot continuously participate in the development of campus. They are not satisfied with campus-based connections. Thus, mobile application communities including Facebook, Twitter, Web Chat and Instagram have a chance to rise. However, such applications can only be used for instant messaging which is usually used for one-to-one and small range communication; group messaging is separate. Quality information cannot be stored for a long time and the information has very short time span influence. Also, these applications are lacking information retrieval and classification functions.

Education & Training

A rapidly changing world requires education systems to adapt rapidly, especially the development of technology which means traditional education cannot satisfy students and employers' requirements. Students' abilities cannot keep up with the requirements of the rapid development and update of new technology because traditional education is still teacher-centered. Students can only passively receive teachers' arrangements to study, recording the learning behaviors is neglected because what to learn and how to learn are decided by teachers. Thus, how do university educations change different students group? Richard Arum, American sociologist, concluded that "As for college education, many students think they cannot learn knowledge or the knowledge they learnt are limited." Nowadays college educations are popularized, although traditional college education takes at least 4-6 years and it cannot promise a job after graduation. The quality and mission of talents training in universities are criticized. Moreover, the concept of university is vague and controversial.

The nature of off-campus education organization is still commercial. The strong sale aptitude to learners influences their judgements of their real learning needs, which makes them more utilitarian and neglect the purpose of study. The mounting sale, manpower and operating cost result in a 15% of average profit, while not having enough investment to upgrade teaching & research and continuous service. They do not continuously produce and update quality content, neglect the stimulation of learning motivation, the spread of brand, and public praise. Such education organizations fight with each other and this results in repeated investment in courses, price and service which affects the development of the whole industry.

Education Resource

As everyone knows, many primary schools and high schools have a local region admission policy which means kids living in a "better region" can enjoy a better education. Thus, problems (like tampering school rolls and residence booklets, incomplete school roll information) happen

frequently. Also, primary schools and high school teachers have their own teaching methods and materials in their region. Regardless of students' choices, there are differences in the educational process due to different reference materials.

University students have strong demand for courses outside university. They may obtain different certificates and participate in different skills training. However, a mismatch between supply and demand for education investment has happened due to limited resources and asymmetric information. As for professors, research papers, experiments and project cheating frequently happen. Also, the reliability of experiments data cannot be proved and as a result, the distribution of research funding is uneven.

Education Funding

Talents are the best to be invested: young people choose to accept education to satisfy requirements from society/industry. However, the educational cost keeps increasing every year and learners have to afford an enormous education loan. Especially in developing countries, there are millions of prospective students who terminate their study due to lacking funding. Missing education often means a lower salary in the future. Scholarships and student loans are always through traditional methods. Only a few excellent students can get a scholarship, and as for student loan, most people still cannot accept it because the information mismatch between creditors and borrowers results in high risk and cost. Thus, education is a privilege by elites to an extent. The education for low-income and middle-income students was supposed to be an effective way to cross the social class, but the economy limits them and make the gap between the elite and low/middle-income bigger. This leads to further solidification of the social class and intensification of social injustice. On the other hand, we believe that a loan is morally wrong. Everyone should have the opportunity to receive education and there is no risk of breach the contract.

Job Recruitment

Students will experience a very painful problem when they enter the job market after graduation: they usually have zero experience when they start their careers and do not have professional skills which can contribute in their work.

Due to the lack of detailed, objective records, analysis and evaluation criteria for learners' entire learning/vocational system data, including education background, work experience, training records, technical skills, career history, etc., enterprise encounters another obvious problem: It is difficult to hire high-quality talent that meets the budget and requirements.

The shortage of talent is undoubtedly a globalized and increasing problem. According to a professional human resources report, the value of global recruitment market exceeds 200 billion US dollars each year and the shortage of talent is more serious. The amount of talent cannot meet current companies' needs. The number of companies with enough talents keeps decreasing. At the same time, the talent shortage keeps increasing.

1.4 Common Problem

Copyright protection and commercialization process issues

The existing technology is difficult to achieve copyright confirmation for. The phenomenon of piracy of content still happens. The ambiguity of intellectual property rights makes it difficult to define many infringing acts, and users are also faced with the situation of lacking evidence to defend their rights. This also affect the commercialization process of most communities.

Information asymmetry and learning value issues

The growth of an individual from toddler to the work phase has a lot of educational costs. The third party obtains the benefits of information asymmetry and has a large amount of user information and behavioral data. Gathering such data may damage personal privacy and does not give Individuals any benefits. Users do not have complete control of their own personal information, learning status, content and data created, nor do they enjoy full benefits.

Evaluation criteria and lack of motivation issues

The lack of a standardized evaluation system for educational content, compared to the general realization of content, has a longer-term effect, and it is difficult for users to evaluate and understand the content before payment. Therefore, it is very important to set a reasonable content screening, evaluation and incentive mechanism. At present, this is mainly resolved through the evaluation of IP and centralization, but it will cause a head-on effect and dampen the enthusiasm of late-entrants.

Ecological construction and globalization issues

The adoption of single breakthroughs in the era of the Internet and mobile Internet has determined that it is difficult to achieve an ecological closed-loop system that systematically builds lifelong education around individuals. At the same time, education itself is not well priced, and it can only be priced and sold if it becomes a product or service to achieve value transfer, that is, if productization and communalization can realize its commercial value. The current mechanism lacks the bottom tool services that focus on the production and realization of educational content. For example, the process of cross-border transaction payment is cumbersome, high cost and low efficiency. There is a threshold for most people. This will greatly limit the rate of spread and timely effectiveness of educational content, while at the same time creating inequalities in access to educational opportunities.

Chapter 2. Solutions

2.1 EDUECO

The BitEDU public blockchain combines the application and business scenarios required in the education industry and lifelong education ecological chain. It uses the BEU as a medium and builds an open platform for users based on the smart contracts and Token mechanism to meet their learning growth path. It provides a variety of application scenarios such as learn & share, crowdfunding, job recruitments, competition and community opening platforms for users, developers and ecosystem partners.

The BitEDU public blockchain offers the open and transparent applications developing service for all ecology participants, as well as the business monetizing, which is achieved by running blockchain ecosystem with holdings in BEU.

BitEDU provides an open source blockchain platform that uses decentralized and distributed accounts to record interactions of all users in the community and transactions in crowdfunding, job recruitments, competitions and other activities.

BEU is the virtual currency that was developed using the open platform incentive mechanism and consumer behaviors under different circumstances by digital encryption, based on blockchain technology and smart contracts. On the BitEDU platform, BEU, which is the Token, plays the role as a medium for smart contracts and transactions. BEU does not represent the foundation and its affiliates or any other company and enterprise, or any share, participation, ownership or interest of them. BEU does not cause or produce any cost, income, profit or reward for Token holders. It will not become securities in Singapore or in any related jurisdictions. It can only be used on the BitEDU platform.
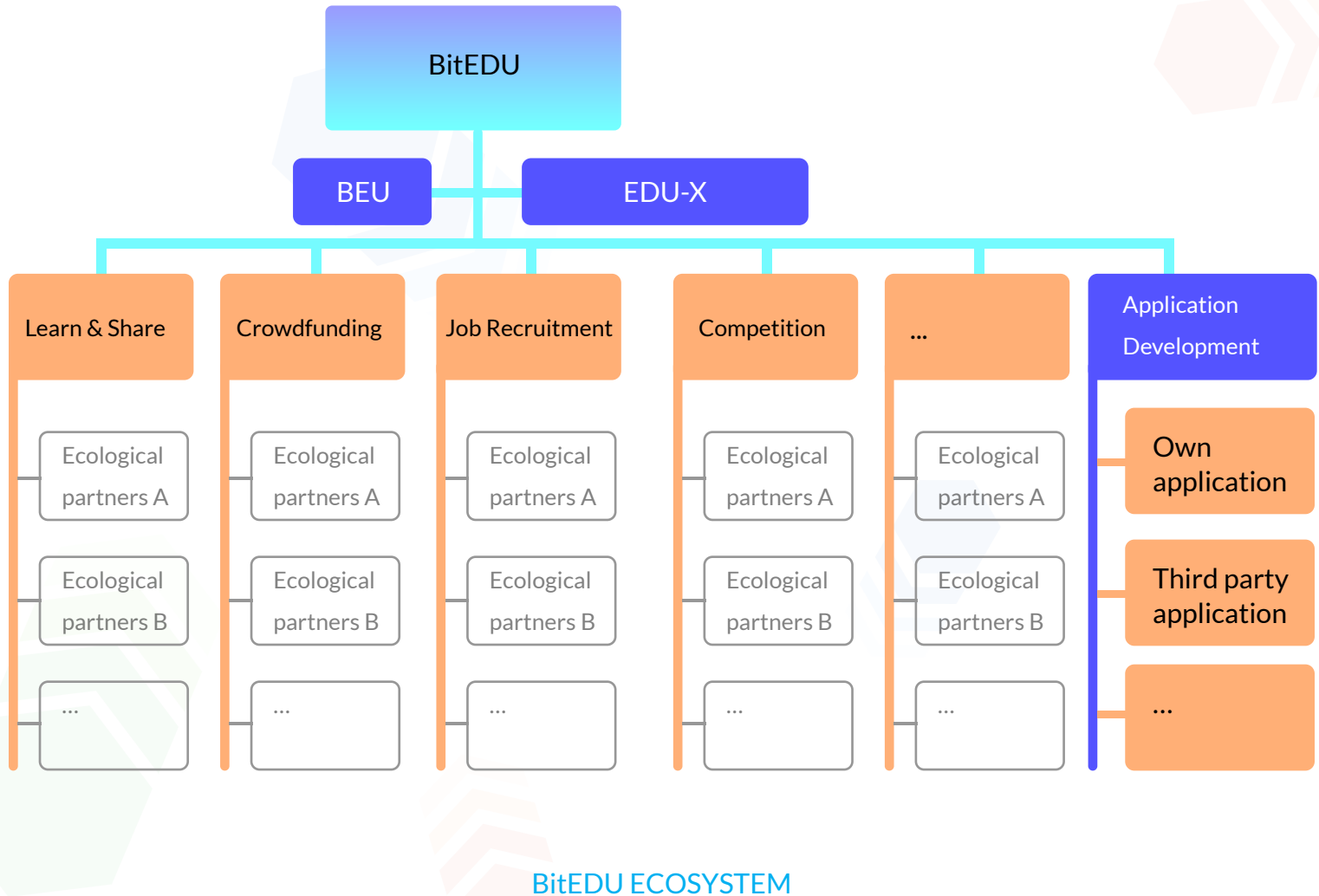
Except for the rights to use BEU as the medium for interactions on the BitEDU platform, there are no other rights to be indicated for the ownership of BEU. BEU is an integral of the BitEDU platform, for which the education ecosystem of the platform will be unsustainable without BEU.

Lifelong education：

BitEDU ecosystem：

BitEDU ECOSYSTEM

2.2 EDU-X

The open community platform is built based on the BitEDU public blockchain, using BEU as the incentive and the method of circulations and statements. It expects that the users, partners, and developers, provide them with resources, tools and community services, which attracts and keeps the users, and assists other ecological scenes. An open and transparent pricing system will be found for the content creation, sharing, service, consumption and other sections during these processes, and all incentives will be settled by Token.

1) For users: Use, consumption, evaluation, sharing and other behaviors are noted with an open and transparent identity. The amount of BEU gained is determined by the values of these behaviors. One needs to pay BEU when using the applications and services of the community and earns BEU when performing corresponding defined actions or tasks.

2) For partners: Partners enjoys flexible dynamic registration and production fragmentation. One obtains BEU by introducing users, contents, services and so forth. More contributions to the ecosystem results in more incentives. When the offered services being shared, purchased or interacted by the users, one will get extra BEU. On the other hand, the release and promotion of the contents and services will cost BEU.

3) For developers: Developers provide users with various forms of community and application developing services. Based on the amount of usage, they will earn BEU accordingly. The release and promotion of the services will cost BEU.

4) For the platform: The platform will charge a certain amount of service fee for every transaction in the ecosystem, which will be used in the future ecosystem expansion, platform construction, maintenance and development.
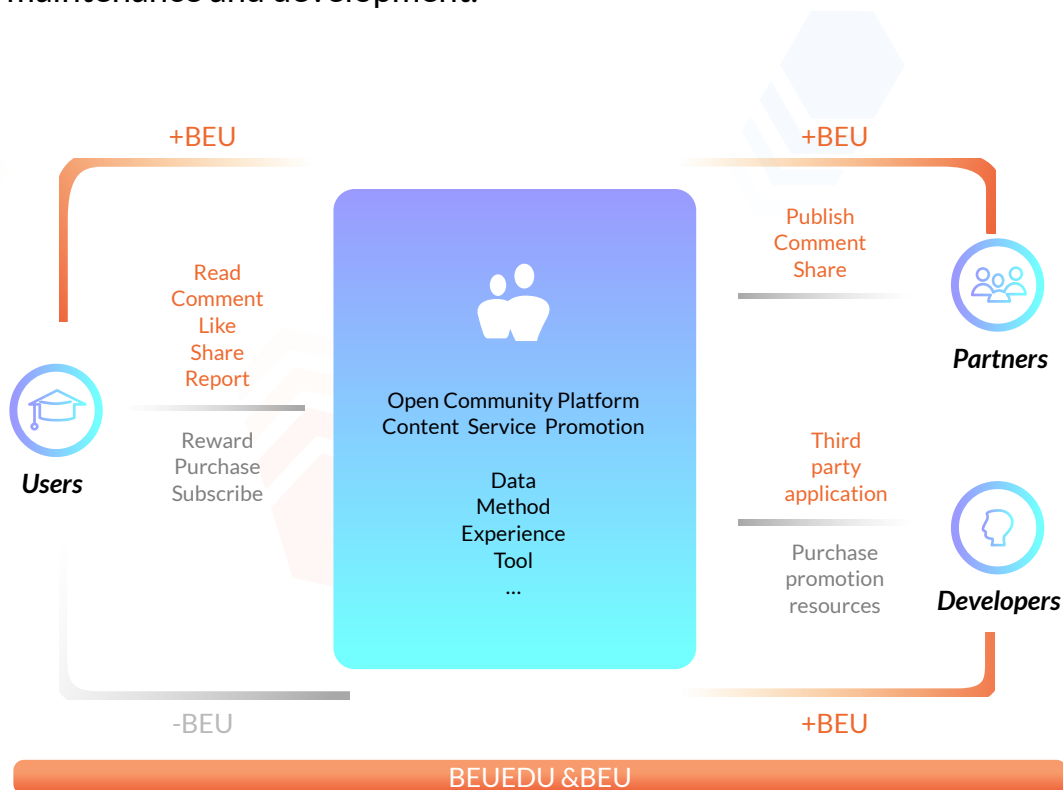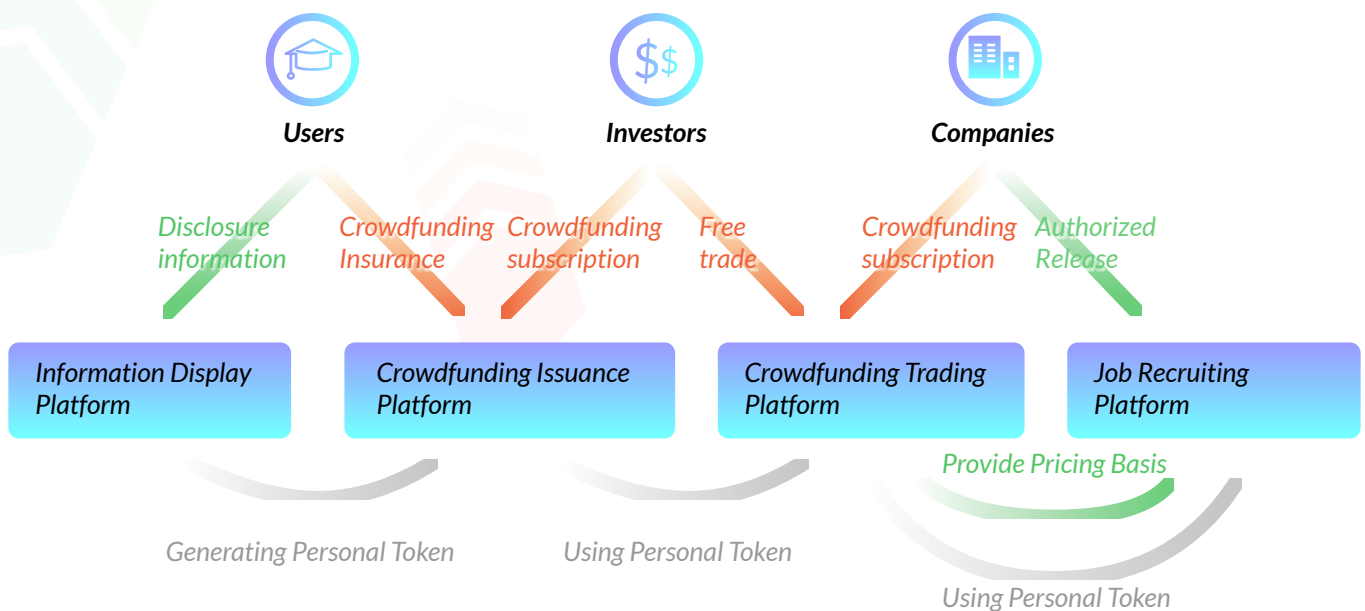

Open Source Community Platform-EDUX

2.3 EDUFIN

BitEDU aims to put education crowdfunding into practice through blockchain technology based on the combination of public community and crowdfunding. For instance, this relationship can be stemmed from the same university. Token are collected and donated from the alumni as an investment for the current students and the alumni can network with students with high potentials. In this way, social finance can be formed immediately between the graduates and the current students. In the meantime, the rewarding rules is fair and varies from person to person. Students with higher credits can win more a favorable condition according to their credit rating. This will provide fixed and floating interest for students to choose.

2.4 EDUJOB

BitEDU links students and businesses together in the community. The employer need to spend a lot of resources to find candidates with the right skills and use more resources to examine and verify their academic achievements and capabilities. All of the above can be solved by one unchangeable and verifiable blockchain system, which is also a trusted personal career credit record platform. The application of blockchain technology on file management of career credit, is the best solution to address the problem of information authenticity at a low cost.

Users

Investors

Companies

Disclosure information

Crowdfunding Insurance

Crowdfunding subscription

Free trade

Crowdfunding subscription

Authorized Release

Information Display Platform

Crowdfunding Issuance Platform

Crowdfunding Trading Platform

Job Recruiting Platform

Provide Pricing Basis

Generating Personal Token

Using Personal Token

Using Personal Token

2.5 EDUTECH

The BitEDU competition platform is an educational service ecosystem built on the BitEDU public blockchain and BEU, which focus on activities such as examination, evaluation, competition. These activities are very large in terms of user participation, active frequency and user scale. This provides a powerful economic basis and broad application prospects for the whole ecosystem.

Global educational competition service providers can implement various scenarios and applications through the API and SDK built by the BitEDU public blockchain. In addition, customized client applications can be supported technically, including but not limited to PC, H5 pages and mini programs. Meanwhile, the OTC field activities of various C2C will be also supported by the underlying technology. In terms of the operation, a smart contract sample and framework will be provided, as well as a distribution system, user management, commission setting, financial division and other functionalities, to lower the threshold for development and operation.

Global users can participate in all types of educational competitions with third parties, who may organize other activities by using BEU.
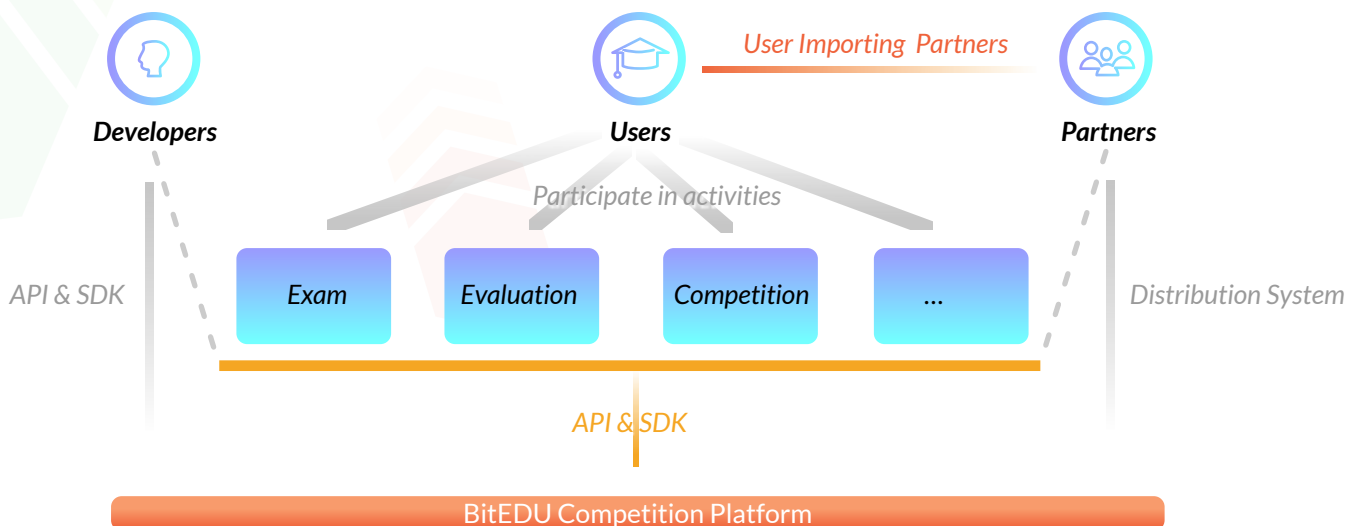
BitEDU aims to become an enterprise that makes a difference in the industry. It strives for helping everyone by building lifelong learning, adding lifelong value, a lifelong educational ecosystem, and lifelong Token economy. This practice helps to promote the popularization and the development of blockchain technology.

Chapter 3. BitEDU Product Strategy

3.1 Platform Description

BitEDU utilized the advantages of blockchain technology such as disintermediation and security to provide users, developers and eco-partners with an extremely low-cost open community platform. In the past, only a few people were able to create educational ecology-related products. Nowadays, we encourage more people join in the process of creation and production, just as Toffler puts forward the concept of "integration of production and marketing operations" in the book "Revolutionary Wealth: the combination of producer and consumer". The decentralized state of education is well-suited to the blockchain model. The blockchain enables a common understanding of the key decisions of the supply and demand sides and helps supply and demand sides quickly form their own networks.

BitEDU itself does not produce any content. It only provides point-to-point underlying services and technical support systems. It connects users, developers and eco-partners around the world to become producers and consumers of the community, making BitEDU a distributed autonomous company in the blockchain. Everyone can create their own content, topics, communities, and even virtual digital economic companies in BitEDU. By operating their own communities or participating in other contributions, they can gain Token incentives from BitEDU to achieve rapid start-up and operation of the community, and ultimately achieve commercial returns through cash the flow and ecological consumption.

At the same time, we do not compete with any existing platforms, communities, etc., instead, we use them as potential cooperative customers and distribution partners. We plan to unite them through our API and SDK to build our own applications (more complete basic service for lifelong education ecology) on BitEDU like robots, APPs, applets, etc. They support text, videos, pictures, audio, and even live broadcast. They also provide users, developers, and ecological partners with the ability of rapid publishments and delivering projects, objective and transparent evaluation and sharing services.

3.2 Role

User

In the education ecosystem constructed by BitEDU public blockchain around the lifetime of individual, the user will have different roles at different stages and under different scenarios. For example, users are both producers and consumers in learning & sharing and competitions. In the crowdfunding platform, users are either investors or fundraisers.

Producers

Having valuable content on the blockchain platform will mean high-quality content will be more easily disseminated, and good content will receive long-term benefits.
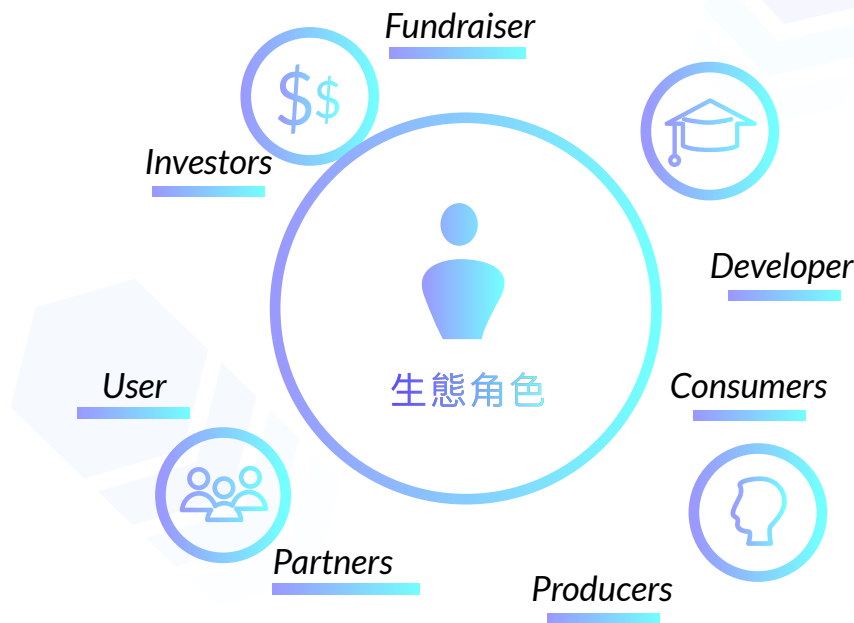
Consumers

Have permission to publish, repost, comment, and rate content on the platform.

Investors

Anyone can be an investor according to the crowdfunding model. The investor can obtain a proportion of future income ratios from fundraisers to maximize the return on investment.

Fundraiser

A fundraiser is the promoter of Person Token. Fundraisers need to be responsible for the return of the investor according to the smart contract. Any person in the community may be a fundraiser.

Developer

BitEDU builds an open and trustable underlying platform. Based on open API and SDK, any individual or third-party partner with development capabilities can develop various DApp tools that are suitable for ecological construction and development.

Partners

The lifelong education ecology built by the BitEDU public chain will continue to expand and involve different stages of education, and partners with different vertical fields. It will reconstruct the senior business and scenes through the underlying tools provided by BitEDU. People will get rewards based on their contribution to the entire ecological construction.

3.3 Economic Model

Eco-incentive Fund （*Reward pool*）

Token pools are used to reward community eco-partners and community users. The eco-incentive fund will encourage partners based on their contribution to the community's ecology.

Partner Reward Mechanism （*Proof of Activity*）

For ecological partners, full autonomy be given. The income of the community is awarded to the community management team in the form of the reward pool, and the incentives in the reward pool are shared by the management team and community participants according to certain rules. The reward pool uses the POA (Proof of Activity) algorithm to perform reward distribution. Two indicators are mainly considered: the number of users participating in the community and the community activity.

Tokens in the reward pool are allocated to each sub-community by community activity and number of participants. Every 24 hours, the reward pool will calculate with number of participants for each community, effective DAU, effective postings, number of effective people postings, effective pageviews, and number of effective "likes", number of effective comments, number of effective reviewers, average number of visitors, average online time, number of maximum concurrent users, number of new users, etc.

$$R = k * \sum \llbracket A * x \rrbracket$$

R is the total number of Tokens in the reward pool; k is the number of participants regulatory factor; A is the value of various behaviors in the community; x is the weighting factor for various behaviors.

The formula for the number of rewards to each community is shown as below:

$$R_i = k * \sum \llbracket A_i * x_i \rrbracket$$

R_i is the reward for i community; A_i is a variety of behavioral values for i community; x is the weighting factor for various behaviors; R is the total amount of the reward pool.

Reward Mechanism for Community Users （*Proof of Devote*）

The community user can share the Tokens obtained by the community with the community managers every day. The user rewards section will be assigned to each community active user (based on their contribution) according to the POD (Proof of Devote) algorithm. The community will receive Tokens from BitEDU through the POA mechanism by calculating the behaviors of received browsing, likes, comments, rewards, and reposts after users create and release their content, as well as what the user browses, likes and comments on regarding other content in the community every 24 hours. A part of Tokens will be distributed to the creator and management team of the community, and the other part will be rewarded to all the users who have contributed to the community that day through the POD mechanism. 30% Tokens assigned to the community are attributed to the community management

team, and the remaining 70% are assigned to community participants. The formula is:
Cm = 70%*(k*∑▦〖Am*Xm〗)

Cm is the reward for the user m; Am is the user's behavioral value; Xm is the weighting factor of the behavior; Ri is the reward for the user's community.

In the early stage of the project, BitEDU will use AChain as the underlying chain. AChain has technical advantages over Ethereum's TPS and DPOS consensus algorithms and scalable smart contracts to achieve rapid user incentive calculation, transaction packaging, and digital content uploading. It can also provide adequate performance of the underlying support for the project application. During the synchronization and expansion period of the project, BitEDU will develop their own bottom-level public blockchain technology with the support of a reasonable SPO mechanism and an ever-expanding lifelong education ecosystem.

3.4 Product Element

Unique Account

BitEDU provides a complete account system. Users only need to register with their phone number to join the community platform. We assign unique digital identities and digital wallets to each user, and these data will be written into the blockchain network. Users use this unique digital identity to join or create a community and enjoy various blockchain-based community features provided by BitEDU. They can also join multiple communities and participate in the construction of multiple communities. Eventually all identities are mapped to the unique digital identity of the user assigned by the platform.

Unique Wallet

The wallet is based on the BitEDU public blockchain to assist participants (including users, developers and partners) in the community to manage their own BEUs, realizing basic functions such as viewing, redemption and transferring. It also assists participants in managing their own accounts. The payment function of various applications and consumption scenarios on the overall platform can be used as a key application of the entire ecosystem to record the user's income and expenditure and BEU's flow. At the same time, the digital asset exchange interface can be integrated. The user can use money exchange function freely and it can be quickly exchanged according to the exchange's timely exchange rate, which will directly reflect the users' community value contribution.

DApp Application

BitEDU is a complete ecosystem platform with a complete API system which can meet the needs of the vast majority of users based on BitEDU development. It can update the platform through accessing to more external applications. A part of the DApp application is launched by the BitEDU team itself with various functions; the other part is developed by a third-party developer through the BitEDU open platform. Community managers can add applications based on their needs to enrich and activate the community;

Data Tracking

Based on the smart contract, the corresponding information will be stored on the blockchain via a timestamp. This mechanism provides an immutable proof. The user's public key address, degree information, and even photo and paper documents can be added to the blockchain. The information status can be rendered in a readable form by the blockchain browser.

Identity Mapping

The mapping service can map the user identities to the system in the form of a public key, which is related to the terminal blockchain browser. It is transparent to each terminal user. Only when the query result submitted by the terminal user is presented, the mapping service can resolve the public key and present the user with readable information.

Off-chain Record

In the BitEDU system, only digital authentication of the issuer and receiver on the blockchain is mandatory. However, in fact, more information sources will help users more. In addition to digital identities, there are other important information including course grades, degree information, and skill certifications. Such information can be accessed through the off-chain database. One way to access this kind of data is to use IPFS to store the images or PDF files associated with the recipients. The hashed addresses of these documents are used to generate the corresponding smart contracts to ensure the reliability of the additional document.

Multi-chain Support

BitEDU will provide support for data stored on different blockchains running on different technology platforms and countries/regions. The mechanism for establishing multi-chain and cross-chain support is mainly through browsers, which can be aggregated from multiple terminal blockchain ledgers. No matter the public blockchain ledger, the alliance blockchain ledger, or the private blockchain ledger, the browser can get through multiple chains and provide a user-friendly interface.

Quantitative Trading

The core functions of management of crowdfunding, mortgage lending, crowdfunding applications, bid borrowing and automatic repayment are encapsulated in smart contracts and perform corresponding operations. To ensure security, all asset changes will pass a multi-signature algorithm. The key of the algorithm is different, and it is scattered in servers around the world to ensure that there is no single-point network attack failure.

Credit Rating

The credit evaluation system is based on the user's contribution in the community, other credits and social data. From the massive historic and current data, it can figure out a transaction method that can bring excess returns with a high chance. Also, it can avoid the negative effect from investors' irrational decisions during manual trading to help investors to make proper risk decisions;

3.5 Application

CloudClass is the first application scenario in the BitEDU education ecosystem. CloudClass is a DApp application that realizes instant communication between teachers and students. It currently covers nearly 1,000 colleges and universities, with millions of users, and will attract more users based on BitEDU to increase BEU's value.

Function introduction:
1) Teachers and students can communicate and interact with each other in real time and zero-distance so that they can understand and solve problems immediately;
2) Realize accurate teaching management through "face recognition" + "mobile phone positioning" technology;
3) Online posting/submission of assignments/exams, real-time viewing and timely evaluation;
4) Share study materials/methods/experience, etc., and introduce external training/recruitment resources;
5) Support mutual answers/communications and self-construction/sharing of competition within different study groups;
6) Automatically generate relevant information such as grade, attendance, etc. to form complete study data.

Chapter 4. Technology Architecture

4.1 Enterprise Architecture

The essence of the community is the interaction between human and the information: BitEDU constructs blocks according to the needs of an individual's learning growth and the change in information technology as the basic issues and build a lifelong education ecological chain. The technical framework is listed from the bottom to the top:
The underlying architecture (data layer+ network layer), community platform (consensus layer+ contract layer), clients (application layer+ content layer)

✓   Data layer: All occurrences of behavior / transaction record blocks
✓   Network layer: Hidden and untraceable address using P2P network
✓   Consensus layer: Motivation and accumulation based on the contribution consensus mechanism
✓   Contract layer: Coding support for oriented function from the third party
✓   Application layer: Supporting the development of orientable distributed applications to realize business scenarios
✓   Content layer: Supporting video, audio, text and other forms of content presentation
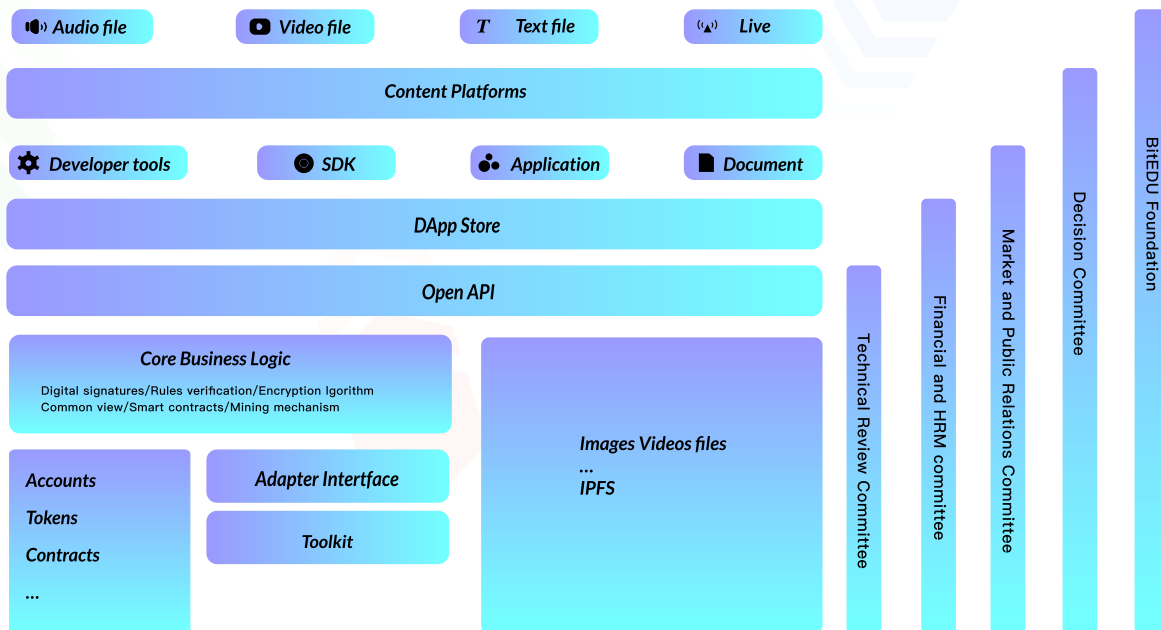
4.2 Data Layer

The data layer is the core data part of BitEDU, which is made up of blocks with timestamps in sequence. Each block is mainly composed of two parts, the block header and transaction data. The data layer adopts a standard blockchain chain structure: Merkle tree, hash function, asymmetric encryption, timestamp and so forth.

4.3 Network Layer

The network layer adopts the P2P networking mode. The P2P network sends data through broadcast. The risk of adopting the election system is that the accounting unit is determined at the beginning of each billing cycle, which may result in targeted IP attacks. There are many ways to prevent this kind of attack from occurring. For the network layer, each node needs to notify other nodes of the active state. Other network elements monitor the status of the new block. Once a half-cycle timeout exception occurs, other nodes immediately take over the execution of the bookkeeping, which will ensure the validity of transaction accounting, while effectively circumventing purposeful attacks.

4.4 Consensus Layer

The consensus level uses the method of electoral bookkeeping, the principle of which is the balance between the encouragement of long-term bookkeeping and the use of equity. Consensus follows the adoption of a billing cycle. At the beginning of each billing cycle, the general assembly will reconvene and initiate a new round of elections. The poll will be suspended before the end of the meeting and a definitive election result will be obtained because the election is open and definitive. In this way, the outcome of each round of elections is also determined. Since no computational power is needed to calculate the difficulty of the block, the calculation task of the billing node becomes very easy. Meanwhile, since the competition is determined by certain factors, either long-term bookkeeping or funding to obtain the bookkeeping rights, the security of the blockchain is guaranteed.

4.5 Contract Layer

The contract layer mainly provides targeted contracts to the application layer. Targeted contracts are classified according to their different functional forms:

The deterministic type of contracts meets basic transaction requirements. The basic transactions support P2PSK, P2SH and P2PK transactions. The main items supported are basic transactions, and the security of transactions is the core function.

The functional type of contract covers the function of functionality transfer. Therefore, in addition to Token's attributes, it also includes the conductive attribute of a function, which usually contains value, type, and regulatory constraints, and completes the transfer of value content in the community.

4.6 Application Layer

The application layer provides a functional paradigm, the RPC function, to facilitate the users to complete the functional paradigm convention and is used through simple interface functions.

Developers of commercial applications do not need to understand the underlying implementation logic and processes in most cases. They only need to customize the functional paradigm rules, and the flexible and diverse business application requirements can be then satisfied. The application layer can query the basic information of the transaction through the block browser. From the basic information of the transaction, conformed information can be obtained through the electronic tag, transaction type, transaction description, etc.

4.7 Content Layer

Since the application layer has provided direct help for developers and users to build their own content platform, the content layer supports the creation and distribution of content in various forms and topics such as video, audio, text, and live broadcasts. The user can use BBS, APP or other applications for direct integration.

Chapter 5. Token Mechanism

All incentives and transactions for users in BitEDU must be realized through the BEU. Tokens will be generated and consumed within the system, and flowing among users, developers and partners, focusing on different phases of the individual's lifelong learning scenes:

a) *Users can get Token by the following behaviors:*
(including but not limited to)

i. Through the OTC/BTC market or points redemption;
ii. Through evaluation, forwarding and sharing.
iii. Through job hunting, recruitment and activities.
iv. By initiating crowdfunding or completing specific tasks.
....

b) *Users can use Token by the following behaviors:*
(including but not limited to)

i. Purchase paid content or application
ii. Download material or other information
iii. Share or evaluate content
iv. Initiate a Q/A or a contest
v. Reward a good content
vi. Participate in crowdfunding or job hunting
....

In order to avoid Token's excess or lack of distribution and against the value produced in the system, the generation of BEU determines the value produced in the system, Token is issued strictly following the value of the system, and corrections the number of issuance of the last month to avoid the abuse of Token and the value of Token.

for example：

Sharing and forwarding：

The forwarding behavior plays an important role in the dissemination of knowledge. In order to encourage users to forward the quality of the content, it will give a certain reward to the user's forwarding behavior.

For the reward of forwarding behavior, the total reward value is fixed BEU, and the forwarder gets a reward of different proportions according to the sequence of X and individual.

$F_n = (1/2)n * B/X$ $(0 < n < \infty)$

F_n is the total amount of rewards obtained by group n members, and B is the number of Token corresponding to the content of a content, set by the content publisher and deducted from its income. In order to encourage users to forward, the platform will be subsidized partly.

Content creation：

Content producers will receive Token, which is equivalent to their content value, as a reward for their contribution.

The remuneration of content producers is mainly divided into two categories according to their content.

The first is a one-time output, such as a question answer, a knowledge sharing of a subject, and a one-time payment to the producer on the basis of its pricing.

For periodic output, the corresponding Token will be obtained according to its output cycle, and will be settled as a minimum settlement unit. The amount of Token it receives is comparable to its consumption per day.

$N_i = T/m$

N_i is the income obtained by the I day content producer, and T is the total content of its content (calculated according to the paid subscriber), and the M is the content output cycle (in days).

Chapter 6. Foundation

6.1Governance Structure

Based on the international positioning and influence of BitEDU, the BitEDU Foundation (BitEDU International Foundation, hereinafter referred to as the Foundation) is a BVI company established overseas. The Foundation is committed to the exploitation, development and construction of the BitEDU platform, advocacy of transparent governance and management of the DAO model, which allows the Foundation to truly belong to the participants and enthusiasts of lifelong education ecology and promote safe and harmonious development of the open source ecology.

The first BitEDU foundation decision committee is composed of core founding members for a term of 5 years. The core founding members have rich experience in blockchain, technology, education, finance, media and other fields. After the term of office, the community will elect 50 community representatives according to the holding share of BitEDU digital assets and the calculation weight of the asset age, and then elect 5 decision committee members. The major issues of BitEDU, including development and decision-making issues, are all decided by all members via voting.

6.2 Security Audit

BitEDU ensures security of user accounts and funds through blockchain consensus, smart contract technologies and digital signatures, end-user encrypted purses and other security measures. It provides efficient integration of financial-grade secure data storage, network, and platform resources. It also integrates data, applications and transactions into the blockchain clouds, building a secure transaction network environment, as well as secure transactions with the most trusted trading platforms and technical experts.

The BitEDU foundation's investment committee will maintain high standards of integrity and ethical business conduct. To comply with relevant laws and regulations and industry self-regulation principles, internationally renowned third-party auditors will be invited to regularly audit and evaluate the use funds, cost, and profit distribution of the foundation every year. The evaluation and audit results of the third-party organizations will be released publicly without reservations.

Chapter 7. Team and Partners

7.1Team
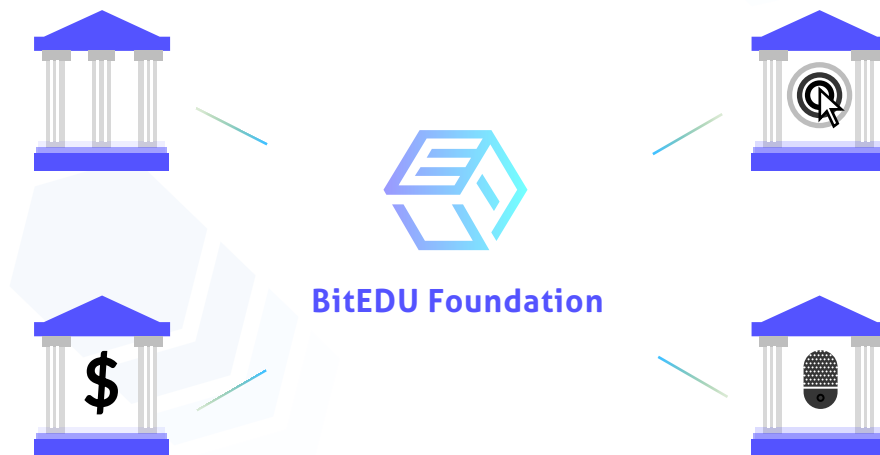
BitEDU Foundation

BitEDU Foundation

Decision Committee

It is responsible for making important decisions, convening emergency meetings, and hiring dismissal of functional committees.

Technical Review Committee

It is composed of core developers in the development team, responsible for the underlying technology development, open port development and audit, various product development and auditing, etc.

Financial and HRM committee

It is mainly responsible for the collection and application of project collection, the salary management of developers, and the daily operation cost audit.

Market and Public Relations Committee

It is responsible for BitEDU marketing, product promotion, external publicity, business cooperation, PR maintenance, etc.

7.2 Investment Organization

Achain

SSC

ENCRYPTED CAPITAL

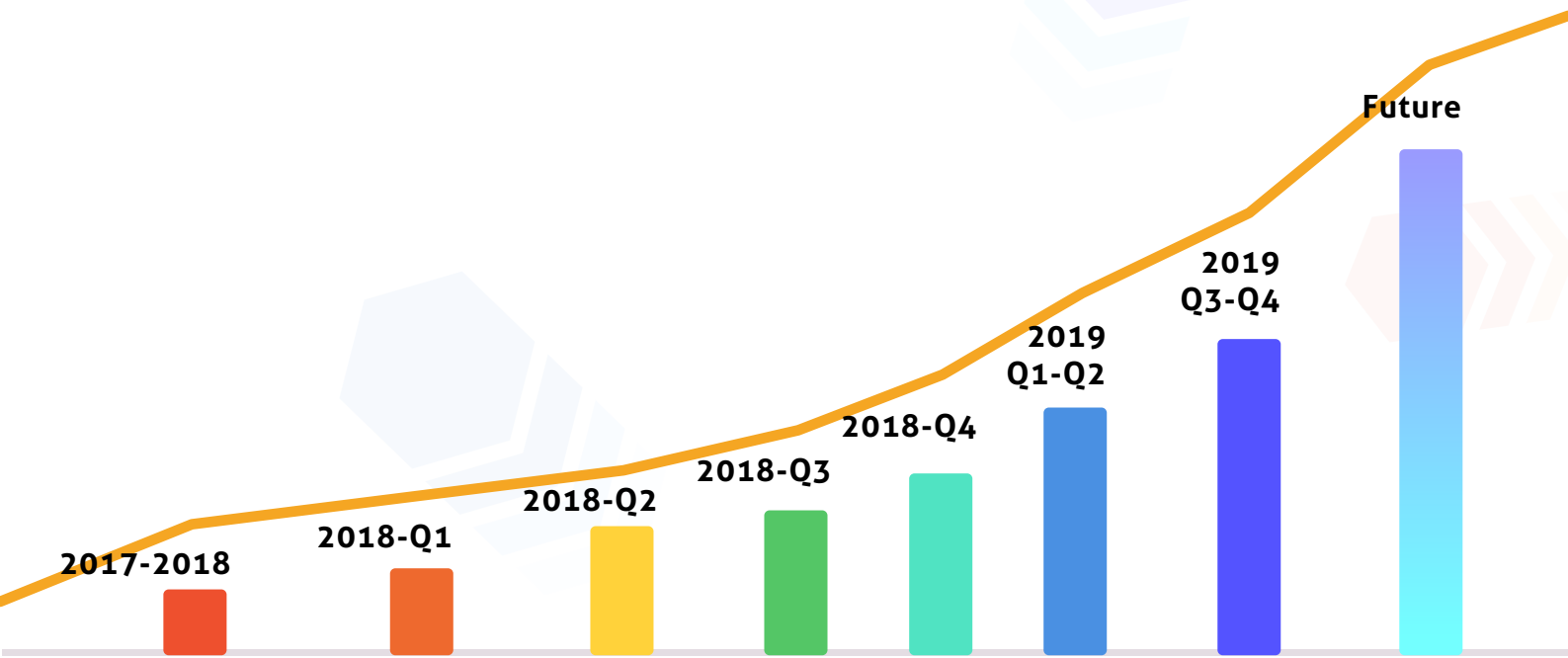ZFY FUND

7.3 Partners

KCASH

icst

Block Focus

Kdax.pro

BTB.COM BitBrothers

Block -Technology

Chapter 8. Milestone and Roadmap

1.   2017-2018
Explore distributed education ecosystems, build partnerships with hundreds of institutions, and spread the reach of millions of users;
2.   2018-Q1
Perfecting the white paper and completing the angel/basestone investment;
3.   2018-Q2
Product Design R&D, Eco-Partner Construction, On-line Exchange;
4.   2018-Q3
Launched an open community platform based on blockchain.
Docking several vertical field eco-partners;
5.   2018-Q4
Launched a learn & share platform based on blockchain.
Docking hundreds of thousands of vertical field eco-partners;
6.   2019-Q1-Q2
Launched a crowdfunding platform based on blockchain.
Docking millions vertical field eco-partners;
7.   2019-Q3-Q4
Launched a job recruitment platform based on blockchain.
Docking tens of millions of vertical field eco-partners;
8.   Future
Launching the lifelong education ecological public blockchain based on Blockchain, Comprehensively support products, improve ecological construction, and build a global lifelong education ecosystem。

Chapter 9. Publication and Use of Token
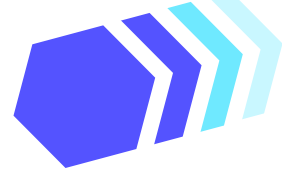
The digital currency BEU is an official encrypted digital token issued by the BitEDU Foundation. It is generated on AChain based on smart contracts for settlement, trading, and smart contracts performance.

A total of 2 billion pieces of digital currency BEU were issued, which were created by BitEDU at one time. The maximum amount has been set and cannot be either changed or added. The digital currency BEU is allocated to different holders according to certain rules and proportions, among which a certain percentage of BEU will be used for raising funds for the suitable audience in an appropriate way for the construction of blockchain infrastructure, product module R&D, application ecological layout, and overall operation and maintenance of the foundation.

Digital currency BEU holders can participate in voting to elect accountants, and they can also jointly participate in decisions related to important issues with the foundations and BEU platforms. The sale of digital currency BEU will be oriented to appropriate investments in accordance with laws and regulations around the world.

BitEDU is a blockchain project of both the application type and the underlying chain. It can generate operating revenue very quickly. BEU can be used to pay for various personnel in the process of increasing the value of talents and investment services and realize rapid point-to-point payments and transactions within the platform.

Temporarily, BitEDU will not be distributing profits to the holders of digital currency BEUs. Instead, it will use the portion with a profit of not less than 20% to repurchase the BEU digital currency of the Exchange and ensure the long-term stable growth of the market value of BEU in order to benefit the BEU holders eventually.

50%   **20%** **20%** 5% 5%
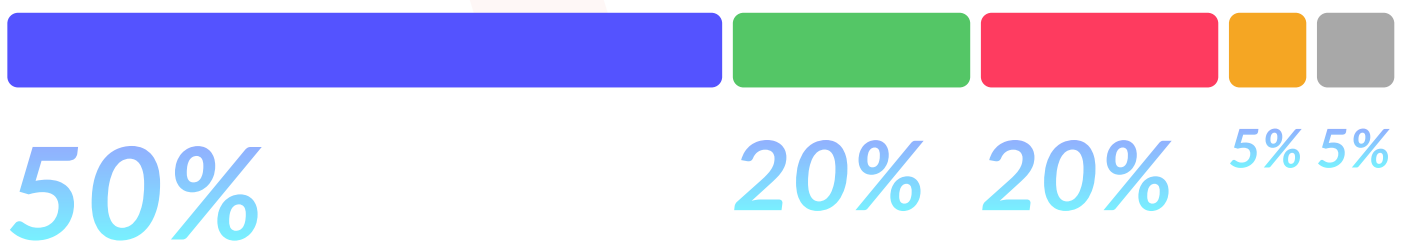
50%

1 billion

Ecosystem Construction

Building a platform requires a large number of strategic partners to integrate with upstream and downstream ecological resources.

20%

0.4 billion

Oriented Insurance

Used for the operation of the foundation, mainly including development, marketing, operation and other expenses.

20%

0.4 billion

Team Motivation

For teams who make efforts and contributions during the development process; Token will be locked in 1 year, releasing 20% every month after the end of lockout, and releasing it in 5 months.

5%

0.1 billion

Consultants and Resources

Building the platform requires the support of external technical experts, industry experts, and early contributors and cooperation platforms
Token will be locked in 6 months, releasing 10% every month after the end of lockout, and releasing it in 10 months.

5%

0.1 billion

Development of the Foundation

As a reserve for development, it is used for project research, development and business ecological construction. The use of this part of funds requires foundation resolution and public announcement in advance.

Chapter 10. Risks and Disclaimer

10.1 Risks

1. Systematic risk: Systematic risk refers to the possible change in the return caused by the global common factors, which influences the return of all securities in the same way. For market risk, if the overall value of the digital asset market is overestimated, the investment risk will increase. Participants may expect the public offerings of Token to grow high, but these high expectations may not be realized. At the same time, systemic risks include a series of force majeure factors, including but not limited to natural disasters, large-scale global failures of computer networks, and political unrest.

2. Regulatory Risks: It undeniable that in the foreseeable future, countries around the world will have regulatory regulations introduced to restrict the regulatory blockchain and electronic Token fields. If the regulatory body regulates the field, the Token purchased during the public offering period may be affected, including but not limited to fluctuations or restrictions on price and easiness of sale.

3. Hacking and criminal risk: In terms of security, the number of individual supporters is small, while the total number is large that also puts forward high requirements for project security. Electronic tokens are characterized by anonymity and untraceablility, and are easily exploited by criminals, or attacked by hackers, or may involve criminal activities such as the transfer of illegal assets.

4. Co-ordination and team risk: The founding team of BitEDU will spare no effort to achieve the development goals set out in the white paper and extend the project's growth potential. Given the unpredictability of the industry's overall development trend, this white paper and team members are likely to be adjusted as the project details are updated.

5. Other risks that are not known at the moment: With the continuous development of blockchain technology and the overall trend of the industry, there may be some unforeseen risks. Participants are asked to fully understand the team background before making decisions of participation and to know the overall framework and ideas of the project, wisely adjust their vision, and participate rationally.

10.2 Disclaimer

This document is for information purposes only. The content of this document is for reference only and does not constitute any advices of sale, offer or invitation to sell shares or securities in BitEDU and related companies. This document does not constitute nor is it to be interpreted as offering any sale or purchase, nor is it a contract of any kind or commitment. In view of unpredictable circumstances, the objectives set out in this white paper may change. Although the team will do its best to achieve all the goals of this white paper, all individuals and teams purchasing BEU do so at their own risk. Some of the contents of the document may be adjusted in the new white paper as the project progresses. The team will publish the updated content by posting an announcement or a new white paper on the website.

BitEDU clarifies that it does not assume direct or indirect losses caused by participants, including:
1. Relying on the contents of this paper;
2. Incorrect, negligent, or inaccurate information in this paper;
3. Any behavior caused by this paper.

The team will work hard to achieve the goals mentioned in this paper, but based on the existence of force majeure, the team cannot completely make the commitment.

BEU is a tool for performance on the BitEDU platform and is not an investment product. BEU is not a kind of ownership or control. Controlling BEU does not represent ownership of the BitEDU or BitEDU applications. The BEU does not grant any individual participation, control, or any other authority regarding the use of BitEDU and BitEDU applications.

BitEDU

Lifelong education | Lifelong incentives | Lifelong benefits

Decentralized Education Ecosystem based on Blockchain Technology

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WhitePaperVersion1.0
This document will continue to be updated according to project progress