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Part I: Background

1.1. Blockchain

1.1.1. Blockchain Technology

In simple terms, blockchain is a digitized and decentralized distributed ledger and database. Completed blocks add records in chronological order, each node acquires a copy of a blockchain and is automatically downloaded, therefore once the data is stored, it will never be changed. When point-to-point networks established a foundation of trust that do not require third-party guarantees, efficient and low-cost trading are achieved through this technology.

This technology, where data are stored consistently in a tamper-proof environment, has gained worldwide attention. The world is running towards the “Blockchain Economy” era. The birth of blockchain marks the beginning of a trustworthy internet structure. As a result, the blockchain is regarded as the fourth technological revolution after the steam engine, electricity, and the Internet. Blockchain created a consensus system where people have gained trust and new opportunities for cooperation. In blockchain systems, the centralized platform is replaced by peer-to-peer (P2P) blocks, and people can use transparent algorithms to define the rules of the game in the community. This blockchain technology revolution is sweeping across all industries including education, tourism, certification and intellectual property industry.

1.1.2. Blockchain Applications

Since Bitcoin’s first appearance in 2009, its price and application ascended exponentially. More and more people believe that the prevalent application of blockchain technology will be the catalyst for future of technology development. Represented by Ethereum, the decentralized platform which can execute smart contracts, is called blockchain version 2.0. Through integration of smart contract technology, applications developed based on Ethereum has derived numerous applications that exceeds currency. The era of blockchain 3.0 will further differentiate applications, expand the interactive community and broaden the technology application and transaction behavior.

In the era of digital economy, the core of business operations is the data and content. The purpose of the AmberTime system is to provide users with the ultimate storage, reading, and sharing of data related to their own values, achieve data and content interchange, and create

value through this process. Blockchain 3.0 is like a globally shared mega computer. It can exchange information and data without passing through layers of management, perfectly evolve into the era of decentralized networking. As such, it will become the main technical foundation of blockchain in commercial applications.

Blockchain 3.0 technology is basic technology, its actual process of value creation is based on the application program, and its scenarios and business models developed based on Blockchain 3.0, and AmberTime is this blockchain 3.0 underlying technology platform that opens to different applications.

1.2. Industrial Problems & Market

1.2.1. Industrial Problems

Currently, there are a few difficulties with networked data management and information upgrading in the fields of education, certification, travel, intellectual property protection, and others:

a. Difficult to Interchange Data and Information

With the example of education and training industry: people spend a big part of their lifetime on learning, but whether through a relatively complete school education or sporadic self-education, the knowledges from lifelong learning are scattered in the cluttered mind, on paper, in the books or on the Internet. Especially after university education, an individual's countless fragmented education data would disappear overtime. On the one hand, personal learnings and experiences are difficult to digitize. On the other hand, data can hardly be systematically extracted and automatically converted to information and content. This results in losing the opportunity to create additional value.

b. Uncredible Information

The security, inalterability and traceability of data are the basic conditions for supporting the effective development and application of information. Today's society is faced with overflowing information. Even for original, unprocessed data, it is the society's urgent task to ensure its authenticity and credibility. In the field of certification and intellectual property rights, a large number of academic frauds, forged certificates, audio/video piracy and other negative phenomena have caused a serious decline in public confidence. Institutions have different standards, students' performance are unverifiable, source of publications are unknown. These are the causes of unverifiable and false information, which greatly reduced the society's trust and recognition for diplomas and certificates and lowered the effectiveness of society's economic activities and social capital.

c. Lack of System

In the era of big data, every occurrence of event and transaction produces massive amount of data. It is every industry or institution's task to construct a huge data capturing and processing network that is ubiquitous and endorsed by a data security trust mechanism.

Taking travel industry for example: every time someone gained new experience, got to know a new culture, learned something new, or captured inspiration from a journey, these valuable data accumulated are usually ignored or stored scatteredly due to lacking of integrated underlying system to record and process.

d. Bottlenecks of Software and Hardware Upgrade

Many corporates or public departments have subjective awareness to digitize product service and upgrade information, yet, without the new economic model top layer design and software and hardware infrastructure that adapts to the network and blockchain era. When consumers or clients demand for a higher level of service standards, service providers are faced with questions about how to establish a terminal service platform that adapts to the information era, implement new applications, maximize data process and create traffic, satisfy customers' needs and create customer's reliability towards platform new technology. These are the tasks that service providers wanted to accomplish but unable to.

How to accomplish these four difficult tasks using blockchain technology? For this valuable information that should be recorded and will create valuable data, can they in fact be recorded, searched and traced? Is there such an underlying technology platform that provides technical agreement framework to realize it easily in a time when technology keeps changing? Is there such an additional service that includes automatic design applications for all value chains and establish customizable blockchain business model from there?

1.2.2. Market Demands and Business Opportunities

We are very confident about the market's demand for the technical demand for underlying technology platform and service needs for the realization sceneries of blockchain application. To conclude:

- Blockchain technology resolves the core problem of credit cost and data security, the unmodifiable characteristic of blockchain completely satisfies the core demand of intellectual property and certification fields, hence an enormous market.
- Globally, there are only a handful of services that are based on blockchain's undelying application technology platform which provides customized blockchain services with minimal requirements. Services that are actually realizing business of scale is even non-existent. At the moment, the market positioning is still above technological threshold, remaining a seller's market.
- Many service providers and corporations have sensed the enormous potential of blockchain technology, and realized that once blockchain technology is applied to businesses, it will help business owners to clear their minds and tap development potentials. However, due to the limitations of resources and technology, corporate application and development requires a long period. The market has an explicit need for rapid platform access and application, and demand for profit maximization through ever changing standards and emerging opportunities.

- Capitals prefer blockchain underlying technology over application development. The development of blockchain 3.0 is on its initial period, the whole standard and agreement framework is to be completed. The technology cycle and development stage at this moment determined that investment capital and financial resources will be more inclined to the underlying technology.

Part II: Solutions

2.1. AmberTime Blockchain Underlying Technology Platform

Generally, in business industry, a complete ecological chain contains three core parties namely: platform, service provider and end user. In the near future, the interactions and transactions between the three parties will be forever changed by blockchain technology. Distributed information storage sharing will be realized through decentralized platform, users and service providers will be integrated into an organic network. AmberTime is here to construct this network and underlying framework, and participants will contribute to the construction of such a transparent, credible and sustainable ecosystem, at the same time, its underlying technology and protocol framework exist independently on each service provider's up-level application platform, therefore it ensures the universality, versatility, openness and expandability of the AmberTime network.

AmberTime platform doesn't provide the cloud storage of all the service providers' data. AmberTime focuses on the blockchain and digital integration and management of service providers' core information and business model. Core information covers user information, key behavioral records, transaction records, authenticated certificates, intellectual properties, records of interests and rights and etc. All these will be integrated into AMT blockchain platform accounts to become important digital assets in the chain; the process includes collection, storage, trading and authorization, and distribution which will be recorded in the blockchain instead of centralized server, Through this AmberTime realized the actual return of ownership of digital assets from centralized service providers to individual users, everyone who connects to AmberTime network will be able to possess and manage their own data and virtual assets.

2.2. Related Industries' Applications

For service providers with limited data processing and blockchain application development resources, AmberTime opens underlying AMT blockchain technology platform and standardizes protocol framework, and provides unified API interface to bridge service provider front-end applications and AMT blockchain, and ultimately helps corporates to clarify their business models and profit sharing structure through this new technology. Service providers will be able to use the blockchain technology at lower cost with easier

access, promote business development and achieve innovative blockchain applications, and set up their own advanced business strategies.

In terms of industry, AmberTime focuses on education institutions, certification institutions, travel institutions and intellectual property protection industries. Cooperation with service providers will be based on the principal of equality and collaboration and the spirit of DAO distributed autonomy. When all technologies are implemented more successful cases and a win-win situation will be created through consistent designing and application of different sceneries.

a. Education and Training

AmberTime opens to schools of all levels, educational institutions, training institutions and etc. globally. All participated educational institutions and units will be integrated into an open and borderless “world university” based on AmberTime’s underlying technology. After cooperated service providers have established the connection between their client ends and AMT blockchain and created the blockchain node, they can directly publish their enrollment announcements, assignments, course contents, completion remarks and etc., and issue achievement badge, grading certificate, qualification certificate, degree certificate and diploma etc. on client end. All these service information and authentication information will be processed and securely stored by AmberTime. At the same time, education institutions can also record cross-regional students’ information through open platform and trace a student’s behavioral records during the period, thus building a benign credit ecosystem. Service providers ensure that the important information, diploma files, educational files of students will not be lost or modified, thus increased its credibility. At the same time, it helps get more traffic with the influence of the platform.

b. Travel Institutions

AmberTime opens to global travel institutions, travel agencies, travel product planning company, tailored travel products platforms and etc. All these organizations can publish travel plans, itineraries, travel-learning tasks on blockchain open platform. When travel service providers of different segments are all connected on AMT blockchain, previously unrelated information about catering, accommodation, and transportation which was once stored and processed separately are no longer segregated. Information wall will be broken and vertical integration will be achieved by AmberTime. At the same time, AmberTime also helps end users permanently save their travel experience as their important digital assets, hence customer loyalty towards service providers will increase, which will help service providers of different industries to attract more clients.

c. Certification Institutions

AmberTime opens to enterprise certification units, government agencies, human resources companies. These organizations can establish point to point authentication on AMT

blockchain platform. They can also realize data sharing and credible authentication with a third party, connecting all transaction and certifying process, issuing different certificates such as employment certificate, practice certificate, achievement badge, profession ID, salary certificate etc. All these important experiences will be permanently and securely saved in AMT blockchain. By joining the open platform of experience authentication, enterprises and headhunting companies can ensure the important employees' information, corporate files, clients' information will not be lost or modified, so that company assets are protected. At the same time, credibility of the platform ensures the past experiences of employees are true and reliable. Through the platform, they can recruit more actual talents.

d. Intellectual Property Industry

AmberTime opens to film and television production, audio and video, cultural communication, publishers and publishing companies that are highly dependent on intellectual property rights. These companies can use AMT blockchain to update their business models of every stage. For example, film production company can use blockchain for fundraising, IP protection, distribution and publication, token circulation, product release etc. It not only eliminates illegal reselling, modifying and copying of information, endorses the interests of all concerned parties (producers, publishers, distributors and end users) with technology, resolves the problems on limited data transaction scale using extended trust mechanism, improves all stages of service providers' business system from production to publication and from fundraising to profit sharing, it also achieves the consolidation of blockchain and product chain.

Lastly, after helping the service providers of the above four major industries to get connected to the AMT blockchain platform and implement their innovative applications, AmberTime will ultimately use uniformed token to consolidate and connect its distributed e-commerce ecosystem on another important composition of the system - the e-commerce business platform, which enables all system participants, including service providers and end-users, to achieve co-existence and win-win after the system is completed economically and ecologically.

2.3. Design Principle

In terms of design, AmberTime will have distributed ledgers, networking, intelligence, open source, and borderless features. AmberTime crosses geographical limitation and industrial boundaries, forming a node distributed and global network of applications and trading networks. If we compare the Bitcoin of blockchain 1.0 to a "point", the Ethereum of blockchain 2.0 to a "line", then the blockchain 3.0 project of AmberTime can be seen as a "body", which provides a complete blockchain technology realization system for relevant service providers, including providing the underlying technology and infrastructure, and even tailoring the user terminal and providing compatible APIs to improve the compatibility and

fluency of the interface. The ultimate goal of the design will center on the convenience of blockchain applications, innovating customers' existing business processes and business models. All functional designs and ideas of the AmberTime Network including AMTC tokens will also be based on the following four core values:

a. Decentralized

The essence of blockchain is to decentralize and establish point to point distributed network. There's no centralized control in AmberTime system, disabling any single nodes will not affect the data integrity or the system's operation. Decentralization means whether disabling one or more nodes, AmberTime can still operate and ensures data process function is absolute reliable, and all users of the platform can enjoy the technical advantage of blockchain's decentralized characteristic.

b. Open and Inclusive

AmberTime blockchain platform is an actual underlying technology platform which opens to all schools, education and training institutes, certifying institutes, travel agencies and travel product platforms around the world, helping them to achieve public confidence and generate traffic through customers. Once registered, they can publish product service content, certifications and diplomas, and other industry-related features after connected to AmberTime.

c. Credible

Through blockchain technology, AmberTime provides our partners and their users an unmodifiable digitized records and verifications. Important data information can be searched, traced and used in the terminal connected to AmberTime. AmberTime will also publish the development code of AMT blockchain, effectively resolve problems such as opaque information, lack of credibility, malicious human rigging. Through AmberTime platform, connected third party partners earn credibility endorsed by technology, lift brand image, gain traffic generated by clients and attention, and merchants' information is further opened up and promoted.

d. Security and Privacy

AmberTime will develop a time-limited blockchain authorization decryption system, where users can set authorization time limit for the contents in all or parts of block nodes. When the time limit is reached, the authorized will no longer be able to access contents in the encrypted node. Unlike traditional database interaction, AMTC confirms each entry's actual source with electronic signature, further enhancing the new era of digital security. AmberTime transactions can only be processed through registered nodes, which greatly reduces security cost. AmberTime will also strictly abide by all relevant laws including the latest EU General Data Protection Law and etc. when it comes to the storage of all data.

2.4. Vision

AmberTime's vision is to develop world's first "One Click Chaining" blockchain fundamental technology platform and service platform, and to provide indiscriminating high-volume entry in blockchain field. AmberTime will:

- collaborate with different institutions, organizations and companies that share the same values and want to create new models in the blockchain era;
- provide technical infrastructure and protocol framework such as AMT blockchain platform and AMT Smart Contract platform;
- help connect our cooperative institutions' various application terminals to AmberTime system. After integration and uplink, realize the application of customers' blockchain e-commerce through AMT background trading module and smart wallet.
- Eventually, make countries, the society and enterprises recognize the contribution and role of AmberTime in various aspects and fields such as blockchain technology promotion, industry upgrade, enterprise emerging business models, and release and sharing of big data information.

Part III: AmberTime Platform and System

3.1. AmberTime Platform Components and Functions

3.1.1. AMT Blockchain Platform

AmberTime platform will provide automated blockchain data management and smart verifications, and AMT blockchain platform is the infrastructure of this system. AMT blockchain platform establishes on the reliable trust between point to point, which eliminates interference of middleman in the process of value transfer, all records, transactions and certification, making it a dynamic process based on blockchain. Which means, when a user himself or herself or a third party wants to search and trace the credibility of certain information concerning the user, the result will not be a static certificate, but a dynamic proof endorsed by time and technology. With AMT blockchain infrastructure and data management framework, AmberTime system will fundamentally eradicate authentication fraud or intellectual property abuse, achieve a consistent data storage and unmodifiable, non-repudiation technology system; bring back authenticity and other necessary attributes that data information should have.

AMT blockchain platform targets corporate market positioning and needs, replaced Proof of Work (PoW) used on public blockchain with improved Power of Authority (PoA) creatively, giving registration authority node more to write ledgers, which not only enhanced authority management, quality security control, privacy protection, supervision and monitoring capabilities, but also improved efficiency of sticking a deal and saved computing consumption

and user maintenance costs. In the process of recording data of AMT blockchain platform and being further processed and turned to information (such as certifications) by AmberTime system, other conditions such as time and partially centralized qualification reviews will be automatically verified, and this verification logic is also automated and based on blockchain technology. This brings about another component of AmberTime, smart contract platform.

3.1.2. AMT Smart Contract Platform

Another important component of the AmberTime system is AMT smart contract platform, which added contractual and logical framework based on the data management system provided by AMT blockchain platform. AMT smart contract platform and AMT blockchain platform are relatively independent and at the same time organically integrated into the AmberTime platform. This mechanism helps the logic and execution be separated from the data itself, to guarantee the independence of various types of data in the AmberTime platform and the flexibility of business logic customization services.

In this independent protocol framework, AmberTime can:

- process information more effectively;
- ensure that the binding parties to the contract can enforce the contract without the participation of a centralized intermediary, in accordance with pre-set agreements and conditions to prevent any breach of contract or human manipulation;
- increase transparency and credibility of investment contracts;
- reduce the demand on resources for service providers to maintain customer and transaction management;
- reduce the labor costs for middle and back offices, and,
- reduce intermediary and implementation costs.

This design also put into consideration the usage of AmberTime token, a digital currency of blockchain 1.0 that is established based on a decentralized ledger, it is a currency and payment method, and its part in the market is not fully decentralized. The token we will design will be circulated guided by the smart protocol of decentralized data base, while its utility applies to the entire e-commerce platform. We believe token inherent with business logics will be one of the development trends of blockchain 3.0 in the new era.

3.1.3. AMT Smart Wallet and E-commerce

For the end users of AmberTime system to enjoy a system of online and intuitive interface, we will develop a user friendly smart wallet that is independent of the service providers' application Decentralized "smart wallet" integrates products and services of all service providers, using its function of direct integrating and taking on AMT e-commerce, establishing a standardized transaction system.

As a direct expressing method of Ecommerce platform, AMT smart wallet's ledger system uses decentralized ledger writing method. In the process of designing the AMT smart wallet, we will strike a reasonable balance between security and simplicity while satisfying clients' need. It will possess functions and characteristics as follow:

- Identity Management

AmberTime provides reliable encrypted user information storage and identity system. Its identity management solution will make transactions easier for users and service providers; at the same time, it offers service providers a better identity management and access verification. All transactions on smart wallets are irreversible and directly correspond to the user identity. Due to the unmodifiable characteristic of blockchain data, identity fraud is impossible. Smart wallet also protects and controls user's personal information, i.e. unauthorized access to information is completely prohibited.

- Personal Account Management

Based on AMT blockchain platform, smart wallet will consolidate and manage related personal information data records across industries, service providers and applications. These records include personal information, behavior records, transaction records, certificates and diplomas, ownership of intellectual property, personal asset record, and etc.

- Privacy and Time Limited Authorization

Smart Wallet uses data encryption technology to protect blockchain data and public records, which provides maximum privacy protection. On the other hand, the wallet also gives users complete control over their personal information. User can set their own privacy levels, from completely open to completely closed. Users can authorize a time limited information access to a third party. Once the time expires, the authorization will automatically be revoked. Thus, denying further access by the third party.

- E-commerce and Smart Wallet Integration

AMT smart wallet allows users to browse products and services information, and to make purchases and other transactions directly on the platform. Registered organizations can also list their education or travel services directly on the platform.

- Consensus Mechanism: Proof-of-Authority (PoA)

Based on an improved proof of stake, AmberTime transactions can only be processed by registered and authorized nodes, and only authority nodes are allowed to write ledger. These appointed independent witnesses with good reputation and verified identities are the consensus foundation of the AmberTime Blockchain. They made functions such as smart contract creation and transaction execution on AmberTime platform much easier and faster.

- Certificate or Badge Issuance

After joining the AmberTime platform and being authorized as issuers, partnering service providers will have the nodes to write ledgers. Then issuers can issue certificate or badges

to users who have completed their activities in the AmberTime system.

- Time-Based Verification

When listing their services, service providers can stipulate the required time it takes to complete a particular service. A transaction would only then be considered as “complete”, if the time condition is met. For example, an education institution indicates the duration of a certain degree or course. Then, this institution can only issue the certificate when the time condition is met. AmberTime checks and verifies the whole process.

- Real Time Transactions

Real time feedback enables the user to complete the transactions immediately.

- Automatic Payment Supervision

Transaction payment is automatically regulated and requires both the buyer and service provider's approval before it can be made.

- Free of Transaction Fees

Due to the low transaction cost, the system may not require transaction fees and still can process transactions efficiently.

- Secured

Unlike traditional database interactions, AMTC ensures the reliability of the source of each record through digital signatures.

3.2. Ecosystem

3.2.1. BaaS Ecosystem

AmberTime will implement “one click chaining” blockchain solution for partners’ applications. Service provider uses the templated process set by AmberTime to perform technical and portal blockchain model semi-customization. With extensive development of AmberTime’s own technology and platform, transaction speed and extensibility will be improved. We will also continuously upgrade terminal connection and integration services, work closely with clients and attract more new service providers to join in order to expand our user base.

Not only in technical aspects, AmberTime also supports and encourages clients to adapt to blockchain application mode, formalize and notarize core logic in the form of smart contract. So that service providers can automatically execute specific process and transaction, eliminate the cost of intermediaries, and ensure end users transparency and reliability. AmberTime grants service providers an opportunity of vertical integration within the industry and horizontal expansion outside of the industry.

a. Vertical Integration

AmberTime provides vertical integration of business model design and implementation of blockchain technology in the relevant industry chain for service providers, such as:

- For education groups - the combination of online and offline education.
- For film and television companies - from project initiation, overall planning, filming, intellectual property protection, publicity and distribution, even broadcast platform establishment to investment return allocations.

Integrating upstream & downstream departments or corporate into the AmberTime platform, and integrating trackable source and whereabouts and etc. into the AmberTime blockchain tracking system, will not only build an optimized foundation for efficient counterfeiting and accountability investigation, but also increased the additional value of the entire ecosystem. Amber ecosystem masters the blockchain underlying infrastructure and provides the capital for constructing an all-in-one service system from top to bottom. And that is our biggest advantage.

b. Horizontal Expansion

AmberTime will also horizontally integrate cross-industry products and services and establish a cross-platform e-commerce chain. Based on this, AmberTime will form a self-circulating and sustainable decentralized value ecosystem. All value exchange media within this circle, as well as global partnering education services, travel services, and transaction payment methods for intellectual property products, will rely on our cryptocurrency AMTC. As services continue to be exchanged, the frequency and scale of transactions will grow exponentially. As the circulation of AMTC accelerates, the participants in the AmberTime ecosystem are more encouraged to maintain the system and promote value creation. From this self-reinforcing cycle, this decentralized platform and system will soon grow into a huge reciprocal network for information capture which attracts more participants.

3.2.2. Reward System

AmberTime will reserve 10%, a total of 200 million AMTC for community creation and public welfare projects as ecosystem construction reserves for each super node, and the reward system will reward those who contributed to the ecosystem under the principle of open, just, transparent and non-profitable, so that the end users or communities of parterres and authority nodes will receive AMTC reward in self-circulating ecosystem through providing services. Reserves will also encourage service providers accelerate tangible and non-tangible asset liquidation and establish their own micro-ecosystem and realize autonomy and self-expansion of small communities, so as to achieve organic growth of the overall AmberTime ecosystem. The AmberTime community in the future will be complex and diversified, hence, we need to nourish and develop the micro-ecosystem of

each node and the final organic integration. Decentralization gives every different community and operation center authority to be an independent mechanism, instead of being controlled by one central. The purpose of the reward system must be designed to establish and expand communities, instead of allocating rewards to those who haul the most tokens and deviating the design of the system and our original vision.

Corporate clients and cooperative public welfare services will establish independent reward system and create their own eco-community, based on the consumption habits and special eco-characteristics of end consumers and disseminators. We believe that community itself is a perfect application scenario of tokens. AmberTime has already establish cooperative relations with a mobile game company to develop The Three Kingdoms of Amber game. Once the game is launched, a certain portion of reserves will be allocated to fund direct promotion rewards of the game. At the same time of expanding game player community, AMTC will be one of the props in the game to make it playable and consumable. AmberTime is also cooperating with educational institutes to establish scholarship mechanisms based on their own education services and target audience, to create quality traffic for public commonwealth, to attract and integrate interactive client cohorts who share the same wish and idea to promote sharing and cooperation, to ultimately create a high-conversion sales channel and establish community economy through AMTC consumption.

Our ultimate version is to create a self-circulating eco-system through ecosystem construction reserves and special reward system, and to realize self-motivated expansion of each node community like atomic fission.

3.3. Economic Model

3.3.1. Value and Price Exchange

The core of AmberTime's economic model is the implicit value creation of the AmberTime system and the mutual conversion of the explicit token (AMTC). In the AmberTime system, the process of recording and processing all the data based on the platform into information can be abstractly understood as the accumulation of the data into "amber" over time. Amber is just like water, electricity and air. It is a natural energy generated by the combination of blockchain 3.0 technology and big data. AMTC extracts all virtual digital records as valuable information and presents them in digital currency to activate these silent digital assets. AMTC is a product derived from the extraction of "amber" value. It not only realizes the fragmentation and digitization of personal experience assets, but also exchanges and records in the form of tokens to break through the system nodes and naturally circulates in the AmberTime ecosystem.

Arguably, AMTC is a manifestation of the abstract concept of "amber". The natural integration of AMTC and AmberTime systems complement each other. AmberTime's own organic growth and value creation will increase the price of AMTC; AmberTime system

participants will give more efforts in the role of their systems in order to obtain more AMTCs or increase the market value of AMTC; a more active and circulated AmberTime will speed up the process of accumulating amber; this forms a virtuous cycle and expansion of the ecosystem. The success of AmberTime will make the boundary between blockchain technology and tokens more ambiguous or disappear. The return of technical value is also the starting point of Blockchain 3.0.

3.3.2. Smart Asset and Real Contracting Case

Smart asset refers to all generalized blockchain-based tradable assets, the types of which include tangible goods & services and intangible intellectual property assets or rights such as asset usage rights. Smart asset is based on digital asset but also richer connotation and application scenarios. AMT smart asset realizes and confirms ownership through decentralized, tamper-proof, and traceable smart asset management platform, and is technically endorsed by AMT smart contract technology, in compliance with current laws and regulations through the contracts between service providers and end clients at the same time. Smart contract verify and record identities through AmberTime blockchain network and relevant users can access blockchain records to generate real certificates using service providers' end applications, and client or a third party will verify the source or trace back the entire history.

The blockchain trust mechanism network is an important driving factor in the development of smart asset and smart contract. This enables two strangers to trade automatically on blockchain network. The artificially non-intervened mechanism not only reduces trade verification costs, but also increases greatly trade success rates. And previous relatively complex traditional trades in real life, such as real estate trade, can greatly improve the efficiency of trading process through digitalized smart asset and smart contract, which not only lowered the participation threshold for both parties, but also tremendously improved the development of the industry itself, including propagation velocity of product services and liquidity of trades.

At the present, AmberTime already has some successful application cases. Our partner Paramount Entertainment successfully got in contact with its partners on AMT smart platform for its film project investment and raised the fund for the project outside the platform. After the project was launched, its smart liquidated film project will automatically execute the legal smart digital model agreement provided by AMT platform, the cooperation models with its investors, supporters and partners. The entire process is fully automatic and is automatically executed freely by each party outside the platform using AMT smart contract platform technology. The smart contract of AmberTime is confidential, and it will not and cannot be altered by any third party. Hence, intellectual property itself and smart asset investment revenue are both protected and enhanced by blockchain technology. The smart asset management platform established a decentralized asset management and investment system that requires no trust in real sense. Anyone can contribute to and invest in projects that interest them or worth investing or generalized assets. AmberTime will directly become

the pillar of scattered and provide the base for asset transfer and distribution through decentralized network.

In terms of relevant market of smart asset promotion, AmberTime received great support and service enquiries. Major investing partners including Lento Sailing Club, IYAT Cruise Holiday Co., Narwhal Ocean Sports Chain Club and etc. have signed cooperation agreements with AmberTime. At the same time as developing main blockchain, AmberTime custom designed the client ends for signed partners. In the end, whether usage rights of yachts and sailboats or tangible asset ownership will have new attributes on AMT blockchain smart asset platform, so as to accelerate the expansion of service providers' businesses and the demand and circulation of AMTC.

3.3.2. Traffic

Traffic is an important element and core advantage of AmberTime's economic ecosystem. The manifestation of traffic is multi-dimensional. Apart from user traffic, there are token circulation, information flow, logistics, and even social relations. These are the necessary conditions for AmberTime to create value or accumulate "amber". Without user base or transactions, there will be no record, without records, there will be no "amber accumulation". When a service provider's client base does not have enough traffic and network value yet, the service provider's own network value can increase when the AmberTime platform is connected to client base of other service providers. The layout and functions of AmberTime ecosystem goes beyond localization and realize network and platform formulation. The basic users of the different service providers will establish relationships between unified platforms and e-commerce systems and form a unique scale user ecosystem, providing key foundations to traffic generation. The service providers also subverted the traditional model of investing on marketing and promotions before making any profit. Now they can maximize network effects through the use of blockchain technology to realize customer flow creation.

The conversion of traffic can also obtain unimaginable commercial benefits in terms of third-party utilization and thus directly increase AMTC's market value growth. While AmberTime platform users continue to expand product services and business scopes, the virtual and offline entities that are integrated into the platform share client base, and the AMTC's circulation and usage will naturally increase in an orderly manner. AMTC will also become a tool of automatic resources matching under the market mechanism, and it will become a traffic solution for automatic traffic diversion. Smooth flow and reasonable resource allocation will further stabilize the basic requirements and pricing basis of AMTC.

3.4. Technical Realization

3.4.1. Technical Framework

A blockchain is implemented as decentralized network of nodes. In the context of the AmberTime network, nodes can be service providers, institutions, establishments, or individuals participating in the network. Service providers and institutions are incentivized to act as nodes to expand the reach and scalability of the network

In the AmberTime network, transactions are verified through a mutual consensus method called Proof of Authority. Mutual consensus verification protocols allow a network to verify updates to the blockchain collectively, ensuring that all times the overall dataset remains correct without the need for a central governing authority. There are a number of different approaches to consensus protocols, but a common requirement is that there are adequate safeguards to prevent malicious manipulation (or cyber risk) and ensure that no single point of failure exists. For the AmberTime network, we rely on a system called Proof of Authority (POA).

In a POA-based network, transactions and blocks are validated by a consensus of approved accounts called approvers. For the AmberTime network, institutions and service providers and other individuals may earn the right to become approvers, especially if they have a higher stake in the network. Such approvers will be incentivized to ensure transaction validity and the reliability of the network not only to retain their reputation but also to protect their stake in the network. Using a Proof of Authority approach instead of other consensus methods such as the Proof of Work approach used by Bitcoin's blockchain means the network will be able to avoid the scaling problems currently encountered by Bitcoin and related technologies like Ethereum. (Refer to the Developing Scale section in this document for more details.)

The AmberTime Network allows users to perform transactions such as recording activities, buying, selling, or listing of services. The data for such transactions is stored in the blockchain as immutable data. All payments and transactions within the AmberTime Network are made using a digital cryptocurrency called "AMTC" or AmberTime Coins. Participants can freely trade AMTCs or use them for payments using their wallets. All AMTC transactions are verified before being recorded in the blockchain.

Transactions on the AmberTime Network will have zero transaction fee. Instead each wallet will be limited by the number of transaction they can execute within a certain period. The rate for each user will depend on the volume of Amber Coins they hold in their wallet over a period. This means users such as service providers that have a higher stake will be able to perform more transactions.

Smart contracts and/or transactions constraints will be available in the network to ensure transactions follow the rules of the network. These include enlisting of services, issuance and reception of badges/certificates, payments, and any other transaction in the blockchain. These will also be used to provide Automatic Escrow of payments between parties as needed for certain transactions, requiring the consent of both the buyer and the service provider for the payment to go through.

The Escrow service shall make use of Multi-signature wallets, and shall have safeguards in place such that the only destination address of any transfer operation from such wallet would be only either the sender or the recipient, with the validators functioning as service provider

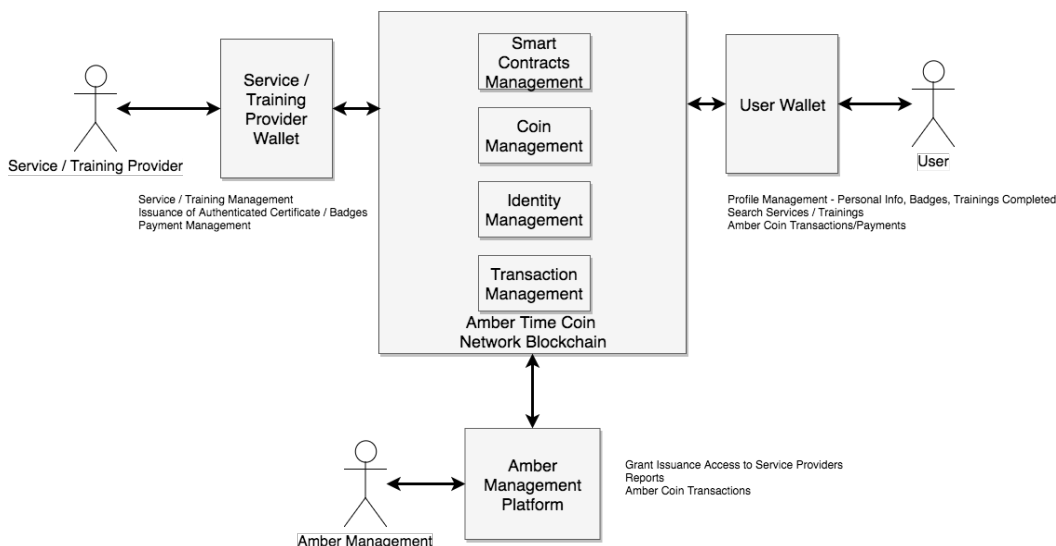
who will refund the AMTC upon transaction expiration without intervention from the original sender or recipient.

A digital asset management system shall also be put into place to allow digital assets to be created, distributed and tracked within the blockchain. Upgrade features shall also be in place for future extensions to the blockchain capabilities.

3.4.2. System Integration Principles

The nodes in the AmberTime network utilize peer-to-peer communications to communicate among the nodes. Each node maintains its own copy of the blockchain.

The wallets provided are lite wallets - they are not network nodes. Wallets communicate with the nodes using secure communication technologies such as SSL to protect the transactions and other activity in the network. A middleware application server is used to facilitate secure communications between the wallet and the server nodes.



A separate management platform for the AmberTime Management will also communicate with the network for purposes of certifying approvers or certificate and badge issuers and other such operations.

Users can download the client application from the official Ambertime website, and generate a wallet address which will serve as the user's identity in the blockchain. User can then avail of certification and identification services from different organizations registered with AmberTime to obtain a certification of his/her own identity.

When user makes a purchase, the merchant can confirm the purchase and have the AMTC transferred to his account by scanning a confirmation QR code generated by the client application. Each merchant may also offer services which will perform external web service calls to provide custom experience to the user.

Public announcement functionality is also provided such that authorities may post digitally signed announcements such as list of graduates and achievements, ranking, competition winners etc. for the public to view.

A real-time fiat to AMTC conversion service is also being used to allow organizations to specify prices in fiat value, all information to be obtained from external services are digital signed to ensure the validity of the source.

3.4.3. Developing Scale

AmberTime will make use of POA consensus to solve the limitations of other public blockchains by proposing a horizontal scalability solution with a “swarm” of POA-based network of authorized nodes connected by an interledger blockchain protocol. AmberTime network’s POA consensus algorithm is reached by independent and known validators who hold an active approver public license and serve as authorities to secure the network by validating blocks. Concerned third parties can cross-validate their identity using data in public domain.

Proving that consensus by known organizations can be a scalable and economic model for blockchains will open the opportunity for many entities such as merchants, businesses, institutions, associations to offer their goods and services in AmberTime network based on this approach, lowering the technological barriers and making open blockchain networks more accessible even for small and medium sized establishments enabling broad scalable adoption of blockchain technology.

3.4.4. AmberTime (Technical Characteristics)

Core Features:

1. Consortium Blockchain that is accessible to public

Bitcoin and Ethereum are public blockchains and operates in a trustless environment, in which every miner in the network has the potential of becoming an attacker. Because there is no reliable and efficient way to identify the miner and to put him into legal binding, the cost of an attack would be insignificant.

In order to solve this problem, Both Bitcoin and Ethereum made use of a Proof of Work algorithm, in which miners have to invest time and money in order to participate in the mining process, and the cost to successfully launch an attack would be to invest in computing power that would exceed the total computing power of all the other miners combined.

This was a very brilliant approach, but a very expensive one which would later prove to be inefficient and full of wastage. Later proponents came up with the concept of Proof of Stake

(PoS), in which the amount of stake that the miner holds for the blockchain gives the miner the authority to mine. The larger the stake amount, the more blocks a miner can mine.

Such approach was again a workaround to the issue of not being able to identify who the miner is, so the algorithm relies on the assumption that whoever holds a bigger stake in the blockchain would not want to destroy the reputation of the blockchain since he/she would have more to lose.

AmberTime is a consortium chain, this means that each miner's identity in the network has been verified, validated and certified by the AmberTime organization, and each of these miners are reputable entities such as government agencies, universities, well-known companies etc., in which an intentional attack on the network, if discovered, would destroy the reputation of the entity as well as AmberTime's in which these entities have heavily invested in.

This setting basically removes the probability of an intentional attack, so instead of the miners having to compute complex mathematical puzzle, or deposit a certain amount of wealth into the blockchain, AmberTime would simply require the miners to digitally sign each of the blocks that they add to the blockchain, and put their reputation as stake instead.

2. Built on Multichain Implementation

AmberTime blockchain is implemented on top of the Multichain project, with a number of configuration tweaks and enhancements. Multichain is considered as one of the more mature and well known open source blockchain implementation project which could support up to 1,000 transactions per second.

To prevent double spending due to forks and to minimize the impact of a compromised node, AmberTime will be configured to use a near round-robin assignment of block generators with a mining diversity of between 0.7 and 0.8 and with a target block time of 10-15 seconds, to be adjusted depending on actual test net performance.

Given that the risk of attack is low, the number of confirmations required to finalize a transaction is mainly dependent on the latency of the network to propagate the latest block to all nodes, this value shall be determined during testing and updated accordingly in the whitepaper to guide users of AmberTime.

3. Preserve Security using Time Limited Authorization

Blockchain's main purpose is to create a public ledger that is traceable, immutable and undeniable. This means that transactions written to the blockchain should be publicly accessible and visible. However, to respect individual's privacy, transaction specific information that are sensitive should be kept private and encrypted unless authorization is given to the viewer, in such case, the decryption key is then passed to the authorized person for him/her to perform the decryption.

However, there are times in which the user may want to make the authorization temporary, such as the case when a contractual auditing firm is hired to review the transactions of the company, or when a secretary is temporarily assigned to take over the tasks of an executive who is on leave. In such cases, the duration of the authorization is defined.

In AmberTime, transaction metadata which contains public information such as source and destination addresses, the amount being transferred and the transaction status are stored in plain form without any encryption to allow blockchain nodes to process them.

However, all other information such as service acquired, service details, request data etc. are encrypted via AES-256 using a random transaction key, two copies of the transaction key is then created and encrypted with both the sender and the recipient's public keys respectively and then stored into the blockchain, this allows both the sender and the recipient to be able to view the details of the transaction. When a transaction is to be made public, the owner creates an unencrypted copy of the transaction key and store it into the blockchain, allowing anyone to decrypt the transaction.

When authorization is to be granted to an individual to view a specific set of transactions, these transactions are first decrypted by the grantor, and then re-encrypted with 3 random AES 256 secret keys, sk1, sk2 and sk3, one after the other, and the final result is then stored into the blockchain together with authorization information such as the expiration date of the authorization, and the recipient of the authorization as an authorization record.

10 unique random blockchain nodes are then selected, and 5 copies each of the secret keys sk1 and sk2 are then created, 5 of the nodes will get a copy of sk1 encrypted with their public keys, and the other 5 nodes will receive a copy of sk2 encrypted with their public keys. The 3rd key sk3 is then encrypted using the recipients public key. All these encrypted keys are then stored into the blockchain as part of the authorization record.

When a user wants to view a transaction, Ambertime wallet first checks if the transaction's key is publicly available, if the key is public, then the transaction is decrypted.

If not, it checks if a copy of the decryption key encrypted with the user's public key is available, if such key exists, then the user is an owner of the transaction, and thus, the decryption key can be decrypted using the private key of the user.

If user is not an owner of the record, the wallet checks to see if an authorization record exists with the user as the recipient. If such record exists, the wallet sends a request to any of the 5 nodes holding sk1, and ask it to decrypt the data, and then pass the data to any node holding sk2 for it to be decrypted.

Both of these nodes will perform validation prior to decrypting the data, ensuring that the duration, if defined, has not yet expired, and that there is no revocation record found the blockchain for the authorization record. A revocation record is a record created by the grantor in case authorization needs to be removed ahead of the expiration date.

Only when the validations passed will the nodes decrypt the data and send it back to the client. The client, having obtain the results of decryption by sk2, can then decrypt the data using sk3 and view it.

The above design forces an user to have the approval of 2 blockchain nodes before data could be decrypted, and using 5 nodes for each key preserves redundancy and reduces the risk of single point of failure.

The blockchain nodes would also have a batch job to delete and clean up authorization records that have already expired to reduce storage consumption.

4. Quick Access to the Blockchain through Light Wallets

AmberTime will be providing light wallets (web wallet and mobile app) for the users to access the blockchain. Light wallets provide a fast, secure and less resource intensive way to interact with the blockchain. Unlike a full wallet, users do not need to download the whole blockchain, which takes time and a lot of hard disk space. In bitcoin, the size of the blockchain is 149 gigabytes as December 2017. Given that data records, badges, certificates will be stored in the AmberTime Blockchain, it wouldn't be surprising that the size of the blockchain will exceed bitcoin's blockchain size in the future.

In the AmberTime light wallet implementation, users will access their wallet through their internet browsers and mobile phones. When they create a new wallet, 12 seed words will be given to the user. These 12 seed words will serve as the secret words to generate the public and private key pair. It is also used in recovering a user's account.

The 12 seed words and the private key will never be stored in the server hosting the web wallet. For the light web wallet implementation, whenever the private key is needed to sign a transaction, the user will have to enter it. While in the mobile app implementation, the private key is stored locally in the mobile phone device with a password option to protect it. Safe keeping of the 12 seed words and private key is the responsibility of the user to keep his account secure.

Through the light wallet, users will be able to check his transactions, send and receive AMTC. When receiving AMTC, the wallet will provide a QR code for the sender to scan and send AMTC easily. When sending AMTC, the transaction will be signed locally in the user's device before transmitting over the network. This prevents the private key from being exposed.

The light wallet also allows the user to check his records, badges and certificates issued to him. Unless the user specify these data to be public, they are private and only visible to the user. The data are decrypted via the user's private key. Through the wallet, the user will be able to share these data with another user or make the data public.

An e-commerce platform will also be built into the light wallet implementation. Users will be able to search and purchase services / products through the light wallet. Users can browse through the services / products through their different categories. Services / Products can also be searched via keywords. Users can also view the services / products prices in multiple currencies (AMTC, USD, RMB).

In summary, the light wallet contains all the functional needs to securely interact with the AmberTime Blockchain without the need to download the full blockchain data.

5. One Key Uplink to the Ambertime Blockchain as a Service Platform

AmberTime will be one of the handful Blockchain as a Service (BaaS) providers, similar to IBM, HP, Microsoft, Oracle, SAP and Amazon. With the main difference being that instead of just providing the blockchain technology, AmberTime goes a step further to provide a wizard that would help 3rd party businesses set up their own blockchain enabled sites with just a few clicks.

By utilizing AmberTime BaaS platform, businesses can enjoy the below benefits:

- Instant B2B/Peer to Peer transaction through the blockchain without the need for a centralized intermediary
- Reduced risk, complexity and cost, since businesses no longer need to setup and deploy their own blockchain.
- Accelerate time to market using the One Key Uplink feature of AmberTime to create a blockchain site with business's own branding and theme.
- Increase business visibility and popularity by participating in the AmberTime network, and get access to the large user base for AmberTime.
- Improve business efficiency by focusing only on the core business, and leaving the technicalities to the AmberTime team.

Ambertime's One Key Uplink wizard allows 3rd parties to upload themes, customize branding, define services and parameters, and generate a blockchain website for the customer.

Certification Features:

6. Eliminate Fake Certificates with Maturity Period and Time based Validation

AmberTime Blockchain, being decentralized in nature, prevents a single authority from adding invalid records, deleting, modifying or changing records without traceability. Because of this, AmberTime serves as a trusted party that people can use to validate certificates. Furthermore, AmberTime uses digital signatures to validate an authority and ensure that only he can award certificates of his own establishment. Thus, certificates that are given through the blockchain will be more trusted than simply showing a piece of paper.

Only authority nodes will be able to issue certificates / badges. When an establishment first registers with the AmberTime foundation to be an authority node, it will need to submit its information along with its public key certificate. Once the AmberTime foundation approves it to be an authority node, it can start issuing certificates / badges and signing it with its

private key certificate. Using the public key certificate that was registered with the AmberTime foundation, a person may then check the authenticity of the certificate issued.

When an establishment lists its services / products in the AmberTime marketplace for purchase, it can also attach to it a certificate and a maturity period. The maturity period indicates that a certificate will only be awarded to the purchaser if a certain time period has elapsed. For example, the AmberTime blockchain will only award a certificate of completion to a 3 weeks short course if 3 weeks have passed since the time of purchase.

By enforcing the time requirement before a certificate is awarded, AmberTime ensures that at least the purchaser of the course has indeed purchased the course and satisfy the time requirement. When the purchaser shows this to his peers or would be employers, the certificate would then hold more weight as they know that the blockchain serves as an independent witness to the transaction that cannot be modified or faked.

7. Define Custom Information to be included in Certificate

Before an authority can start awarding certificate, it needs to create a certificate template first. The certificate template will be stored in the blockchain and will be used whenever a certificate is awarded or displayed. The authority who creates the certificate template will also be able to modify the template after creating it. A version number is simply included in the certificate template to determine the latest version.

A certificate template will contain the following information:

- Title - the name of the certificate displayed in the user's records. Examples are: Degree in Computer Science, Certificate of Participation in Math Learning
- Category - a default list of categories will be available for an authority to choose from. This helps in ordering and filtering user's certificates. Examples are: certificate, experience, degree. This list is maintained by AmberTime Foundation.
- Photo - the main image of the certificate.
- A certificate can also be linked to a Service / Product. If linked, before the certificate can be granted, the maturity period specified in the service/product must be satisfied.

Authority will also be able to request information to be included in the certification. The authority will specify the information that is required from the user through the certificate template. If the certificate is linked to a service / product, this information will be requested from the user upon purchase. When issuing the certificate to an account who did not purchase the linked product/service or if the certificate is not linked to any service / product, the Authority will be the one to enter the information. For example: A user enrolls in a training session. The merchant requires the user to fill in his name and selected training dates. Upon completion of the training, the merchant can grant the user a certificate with these information embedded.

The authority can customize the display of the certificate in the user's wallet. The display specification will be in HTML. The information from the certificate can be displayed in HTML using handlebars.

E-Commerce Features

8. Peg Service Fees with Fiat Currency Lookup

One of the main hindrance with accepting cryptocurrencies for E-commerce, is the stability of the exchange rate between cryptocurrency and Fiat currencies. Defining a proper price tag for a service or product in cryptocurrency terms is a very challenging task, and often requires daily if not hourly updates to the price definition.

AmberTime solves this issue by allowing merchants to define prices in terms of fiat currency values, and dynamically look up the average exchange rate from different exchanges, and then convert the value into its cryptocurrency equivalent.

A batch job is implemented which aggregates pricing information from different cryptocurrency exchanges in which AMTC is listed, and exposed as a web service to the AmberTime network. Each time an inquiry to the price is made as part of service listing or transaction initiation, the price is retrieve from the web service and the actual AMTC value is computed accordingly.

9. Escrow Assets with Dynamic Multi-signature Wallets

Payments in AmberTime are fully secure, thanks to its build in escrow function. When merchants define a service or product, they may indicate how payments are to be received immediately or only after confirmation from user, and will be given a warning if payment will be immediate upon availing a services or product.

Only certain services should be defined as immediate when receiving payment, such as enrollment fee for a university degree, collecting taxes etc, in which aside from the transaction itself, a separate proof of receipt is not required from the user.

When payment is set to be only sent after confirmation from user, the payment goes to a blockchain generated multi-signature wallet address, which will require both signatures from the sender and merchant, or 3 signatures from authority nodes to send the payment out. A further safeguard is put into place such that the only possible recipients of the payment are the merchant or the sender, in other words, when 3 authority nodes makes a transfer request, the authority nodes cannot send to any other address except the original sender and merchant's address.

The process of the escrow payment as follows;

- User makes a request to send payment to merchant for a specific service.
- Authority node checks the service and found that payment should be escrow.

- Authority node generates a multi-signature wallet and redirect the funds to the wallet.
- Merchant scans a QR code from the user's wallet, which contains a status update request and a transfer out request of the multisig wallet, both with the client's signature.
- Merchant also signs the requests, and send them to the authority nodes.
- Authority nodes updates the transaction's status, and sends the payment to the merchant.
- If an expiration period is defined for the service, then if the merchant fails to get a confirmation from the user, authority nodes will check the service definition and refund the payment according to the refund policy defined in the service. This is the main reason why authority nodes can have authority to transfer assets out of the multisignature wallet without the need for the merchant or user's involvement.

A refund policy basically indicates at each transaction age and under a specific status, how many percent of the original payment will be returned to the sender. As an example, a hotel merchant may define refund policies for cancellation of booking that is 3 days before the booked date to refund 80% of the user's payment, and 0% if there is less than 3 days before the booked date.

So when the client sends a status update request to cancel the booking, the authority nodes can create the proper transfer requests from the multi-signature wallet.

10. Setup Custom Services with Web Service Support

AmberTime allows merchants to define custom web service logic upon cancellation, expiration and completion of transactions.

When such web services are defined, payment is always done in escrow fashion with an expiration period of 5 minutes and a 100% refund policy, in which payment is only sent to the merchant upon successful completion of the web service within 5 minutes.

The mechanism is implemented on the wallet side, after sending the payment to the authority nodes which would put the funds into a multi-signature wallet upon checking the service definition, the wallet will then call the custom web service specified in the service definition, passing the status change request and multi-sig wallet transfer request with signature as part of the parameters.

The merchant's custom web service will then have to pass these to the authority nodes after completing its logic to set the transaction to be completed and receive the payment.

These custom web service can be used to do different things, such as top up game accounts, allocate storage space, send user an electronic ticket, generate a custom badge and save it to the blockchain etc.

11. Track Inventory Count through Assets

Products or services sold through the AmberTime marketplace, can be restricted to a certain available quantity or it can have an unlimited supply. Merchants specify this when creating the product or service entry in the blockchain.

When merchants specify the available quantity in creating a product or service, the AmberTime blockchain in parallel will be creating a native asset using Multichain's basic functionalities to track the sales and inventory of this item.

Every AmberTime blockchain node tracks and verifies the quantity of the assets in transactions just like it does with the AmberTime coin. In a transaction, the total inputs for a certain asset must be exactly match by its total output. The purchasing of a unit of product / service is atomic. This prevents the number of quantity sold for a product / service to go beyond the available quantity specified.

Native assets that are used to track the inventory of products or services are fungible on the blockchain. Native assets are created "open" to allow "reissuance" events. Reissuance allows more units of the same asset to be created in the future. Since native assets are fungible on the blockchain, assets that are newly issued does not differ from assets that are initially created. This is in particular useful when adding more inventory to a product / service.

Using native assets to track inventory also allows AmberTime to easily track the wallet addresses who bought a particular product / service and the amount they bought. When the merchant reduces the available quantity left, the extra asset units tracking the product / service is sent to a burn address that has no corresponding private key. This renders these units unspendable.

Part IV: Digital Currency AMTC

4.1. Characteristics and Application of AMTC

The application of AMTC is simply the unified universal token for the AmberTime ecosystem electronic transaction services. Essentially AMTC is the accounting unit of AmberTime's huge distributed ledger. In the cross-industry AmberTime business platform, the use of unified standard settlement tokens or 'passes' is essentially more efficient than the legal currency. It is not only the payment efficiency provided by digitization, but also the fact that decentralized AMTC means that its issuance and circulation does not require verification and record from a centralized third-party certification body or accounting management system. Maintaining and updating only one ledger not only eliminates currency creation, but also synchronizes transactions and settlements. The transaction efficiency brought by the PoA's consensus mechanism based on specific authorized nodes, and costs reduced for mid and

back office due to decentralization, provide a stronger basis for the use of AMTC. In addition to improving the payment efficiency and reducing the settlement risk and other circulating media characteristics, AMTC also possesses the value characteristics of automatic value transfer and distribution endorsed by the AMT smart contract platform. All these features are not possessed by traditional legal currency systems and even digitized legal currency systems.

4.2. Distribution and Sales of AMTC

4.2.1. AMTC Distribution Rules

The total supply of AMTC is two billion and no new token will ever be created. The distribution of AMTC consists of token sales, ecosystem construction reserves, teams and company operations. Angel Fund holds 10%, which supports the early development of company businesses and platform development, helps early development of all components of AmberTime system. The tokens in Angel Fund stage can't be traded. Educational Fund is a non-profit organization, the fund pool of which is originally written and confirmed by smart contract and released gradually by time and distribution mechanism. Tokens of teams and company operation pool will be implemented strictly according to the lockup agreement, and will be used for technological development and cooperative service provider expansion, to help AmberTime develop faster and networked circulation of AMT come earlier, and to realize market value increase.

	%	Tokens
Angel Fund	10%	200,000,000
Private Offering	35%	700,000,000
Reserves	10%	200,000,000
Teams	10%	200,000,000
Company	35%	700,000,000
	100%	2,000,000,00

4.2.2. Token Sales Plan

Token Name: AMTC

Total Target Sale: 900 Million AMTC

Acceptable Exchange Token: ETH

Exchange Rate at Angel Funding Round: ETH: AMTC=1: 5000

Token Launch Timeframe:

1. Angel Fund round: commencement on 20 March, 2018, for 40 days
2. Private offering round: 1 May, 2018 till Ambertime's launch

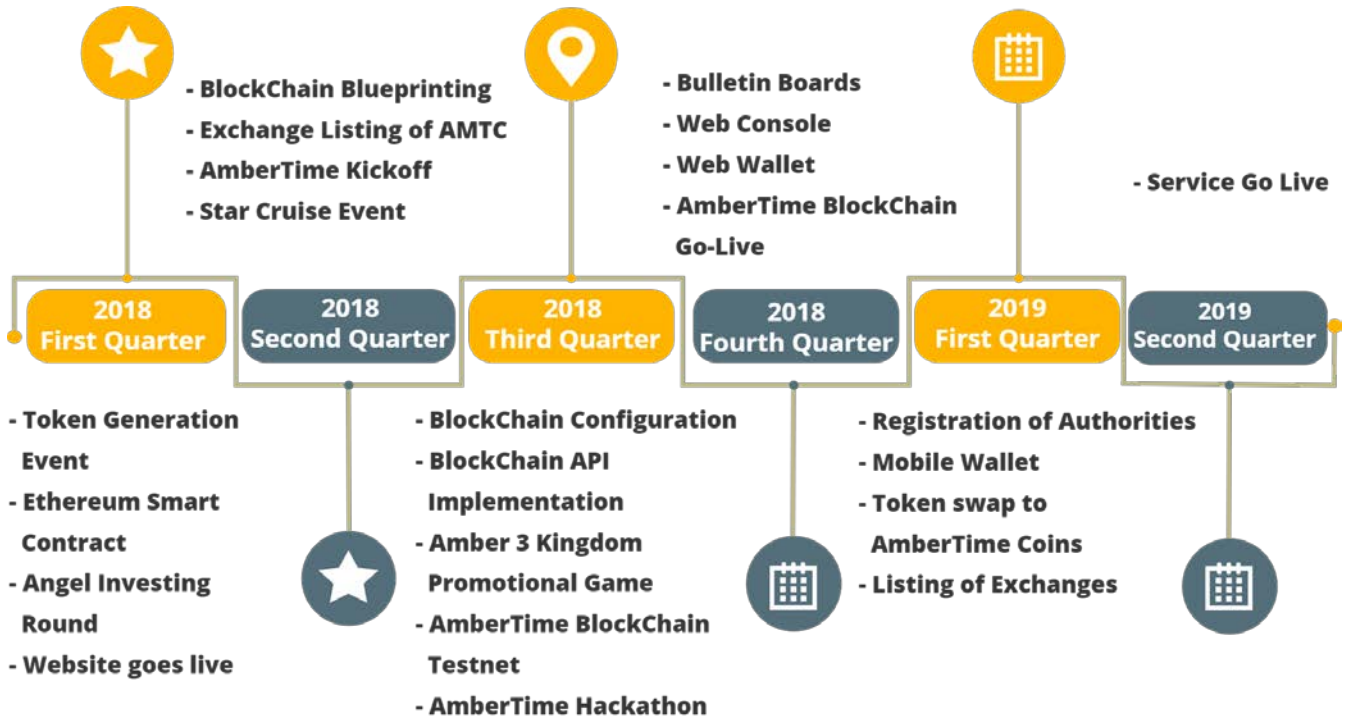
Listed at exchange: Private offering stage begins, and AMTC can be traded freely at HHT.one, BTCBL and other digital currency exchange.

4.2.3. Lockup Period

To protect investors' interests as well as to enhance a healthy and sustainable growth of AMTC, 45% of the total AMTC held by the AmberTime team and company will be locked from sale until AMTC smart wallet was launched.

Part V: Project Roadmap

5.1. Blockchain Development and Project Development Plan



Part VI: Our Teams

6.1. Founders



Jian Li (Caribbean Salt)

AmberTime - Chief Executive Officer; Project Founder; Investor
HTrip Ocean Club - President; Founder
Apsaras Tribe Ocean Sports Chain Hotels - Chairman
Shenzhen Sailing Federation - Vice Chairman
Shenzhen Surfing Association - Vice Chairman

After graduation from college, he served in pivotal government agency for 15 years. After resigned from his post, he founded HTrip Ocean Club, an investment company that's passionate about the ocean.

He started his sailing circumnavigation in 2013. With the Advanced A80 Apsaras, he sailed across Atlantic and the Indian Ocean, participated numerous sailing races and achieved great performance.

In 2016, he founded ocean sports chain hotel brand "Apsaras Tribe".

In 2017, he founded "AmberTime", which provides blockchain underlying technology and services.

Travelling, sailing, diving, surfing, exploring...

He believes that life should be spent on beautiful things!



Lijuan Zhang (Juanzi)

AmberTime - Founder
Shutopia - Founder
IRead Foundation - Director
Well-Known Social Entrepreneur

Early founder and practitioner of Chinese social enterprise. As a social entrepreneur, she presented her projects in Harvard, MIT exchange forums, and was honored in numerous occasions for Intel technology innovation, Chivas social innovation, Fast Company social innovation. As a guest speaker for TED China, TED x Guangzhou, and Zaojiu Talk, she's dedicated to promote social development through enterprise innovation.



Weifeng Ni

Ambertime – Co-founder
EU SEFORIS Project Consultant
Social Enterprise and Sharing Economy Expert

Expert in sharing economy, social enterprise and Context Revolution. At the same time, he's also an advocate and practitioner of social enterprise and sharing economy. He participated in founding and initiating projects such as Qitu and Datusi, in hope of establishing a bridge of knowledge to connect different isolated fields.

6.2. Blockchain Technology Team

AmberTime's technical development team is a group of blockchain experts from Singapore and Philippines. The team is also one of the most important partners of Multichain, which is Microsoft's well-known participant in blockchain, AKA, service platform (BCOS). Core members of the team are top players of the industry, recognized as world's top blockchain technology development force. The team received numerous international awards:

First Place: ASEAN's Next Great Idea (Cyberjaya, Malaysia 2016)

Second Place: Blockchain Virtual Govhack (Dubai, UAE 2017)

Mentorship: Sherpa Capital, SV Angels, Uber Technologies (2017)

Finalist: ASEAN Rice Bowl Awards (Manila 2017)

First Place: STSP Innovation Festival (Taiwan 2017)



James Tristan Mendoza

Chief Executive Officer of MaroonStudios and Co-founder of HealthBlocks. Maroon Studios is a technology innovations company, with the mission to craft strategic innovations for positive change. HealthBlocks is a health technology company focused on health data management using blockchain technology and analytics.



Alvin Joseph Tang

Co-founder and Chief Technology Officer of MaroonStudios. An active lecturer at University of the Philippines in the last 5 years. 3+ years in deep technical research and development environment. 7+ years working in software development with 2 years working with blockchain technology.



Stephen Roy Tang

Senior Solution Architect at MaroonStudios. 14+ years of leading software development teams and implementation of multi-tiered web-based enterprise grade application specializing in J2EE, Oracle, Python, PL/SQL and NoSQL.



Jessie James Suarez

Full Stack Developer involved in projects that lean towards web development, data science, and blockchain technology. Master's degree in Computer Science specializing in Computer Vision and Machine Intelligence.



Michelle Lazaro

Service Delivery Manager at MaroonStudios. 5+ years experience in Project Management and Business Process Consulting for large-scale business transformation program, with significant exposure to SAP S4 HANA, Transport and Warehouse Management, Customer Management, and blockchain deployment.



Peter James Medalla

Quality Assurance Engineer at MaroonStudios, Inc. Has 4+ years of Solid Quality Assurance Experience and More than a year of experience working in a BPO Company. With both Manual and Automated Testing skills and Programming background. He is also active in the Testing Community meetups



Zhen Kun Cua

Chief Technology Officer of Synerteq. 17+ years software development and management experience, trained in CMMI SCAMPI, designed and implemented security and cryptography modules for various Hong Kong government departments including Hong Kong Police Department and ICAC. Search engine expert having developed a proprietary text search engine which was used in Hong Kong IPD for more than 10 years.



Timothy Teo

Blockchain Technical Project Manager for Synerteq. 16+ years executing complex development and integration projects for Fortune 500 companies. Certified Project Management Professional, holds multiple ITIL certifications, Certified Amazon Web Services DevOps / SysOps / Solution Architect Associate and Certified System Administrator for ServiceNow. Active contributor to Singapore blockchain community.



Geoffrey Sy

Blockchain Consultant at SynerTEQ. 15+ years experience as a Full Stack Engineer specialising in Java / PHP / SQL. Strongly passionate in blockchain technology with focus on developing and writing smart contracts. Master's Degree in Computer Science, National University of Singapore.

6.3. Brand Application Team



Theia

Ambertime – Chief Brand Officer
Shinamono – Co-founder
Senior Reading Designer

She creates brand awareness through content and constantly focuses on cultural education field. She participated in founding and initiating projects like “One Hour Reading Before Bedtime in Hotel” and “Shinamono Living”. Through designing reading scenes and cultural experiences, she wishes to bring more cultivated culture into the public’s spiritual life.



Focux

Ambertime - Chief Design Officer
Vaaaooo – Brand Co-founder
Senior Cross-field Designer

Dedicated to cross-media visual delivery of CIS brand, he has been practicing in fields of space planning and development, retail terminal, brand marketing, image packaging and etc.



David Li

AmberTime Sales Director

Bachelor of Materials Science and Engineering - Huazhong University of Science and Technology, Ph.D. in Materials Science and Engineering, University of Florida, USA and lead researcher of numerous scientific research projects.

6.4. Consultation and Finance Team



Raymond Cheng

President of AmberTime Business School; Received his master's degree in marketing in Adams State University, USA; previously served as director of sales training for renowned listed company - Informatics Singapore, who has his own private academy in Singapore. He is well experienced in blockchain business solution customization and project execution.



Derek Fan

Graduated from London School of Economics and Political Science, University of London, he further studied at Lingnan University, Hong Kong, who handled full set of books of account for three different types of business and directed companies to be listed on Nasdaq Stock Market.



Chris Xu

Graduated from the world-renowned University of Sydney, worked as data analyst and consultant in Australia for over six years, with extensive knowledge and experience in both data-analysis and financial fields. Currently serving as Chief Financial Officer specializing in corporate financial management.



Tony Yao

Served as chief financial officer and chief internal auditor in major corporations for years, well-experienced in corporate financial management and financial analysis. A partner in accounting firm, who is familiar with the capital market's operations and financial regulations. He was in charge of multiple listed companies' acquisition projects.

Part VII: Legal Disclaimer and Risk Factors

7.1 Disclaimer

The AmberTime team does not make, and hereby disclaims, any representation or warranty with respect to AmberTime or AMTC (such as merchantability or fitness for particular purposes), except those expressly specified in this White Paper. Each purchaser's decision to participate in the AMTC token sale and purchase any AMTC shall be made based on his/her own knowledge of AmberTime and AMTC and the information disclosed in this White Paper. Without prejudice to the generality of the foregoing, each purchaser will, upon the launch of AmberTime, accept AMTC on an "as is" basis, irrespective of the technical specifications, parameters, performance or function thereof.

The AmberTime team hereby expressly disclaims its liability and refuse to be liable for the following liabilities:

- (1) Any person's purchase of AMTC is a violation of any anti-money laundering, counter-terrorism financing or other regulatory requirements that are imposed in any jurisdiction;

- (2) any person's purchase of AMTC is a violation of any representation, warranty, obligation, covenant or other provision under this White Paper, which results in the failure of paying and withdrawing AMTC;
- (3) Termination of the AMTC token sale for any reason;
- (4) Failure or termination of the AmberTime development which results in the failure to deliver AMTC;
- (5) Delay or rescheduling of the AmberTime development and resulting failure to meet any published schedules;
- (6) Any error, flaw, defect or other issues in the source code of AmberTime and/or AMTC;
- (7) Any malfunction, breakdown, collapse, rollback or hard forking of the original public chain that AmberTime relies on;
- (8) Failure of AMTC to meet any specific purpose, or are unfit for any specific use;
- (9) Utilization of the proceeds raised through the AMTC crowd sale;
- (10) Failure to promptly and completely disclose any information relating to the development of AmberTime and/or AMTC;
- (11) Any purchaser's divulgence, loss or destruction of the private key to his/her wallet for cryptocurrency or cryptographic (in particular the private key to the AMTC wallet);
- (12) Any default, breach, infringement, breakdown, collapse, service suspension or interruption, fraud, mishandling, misconduct, malpractice, negligence, bankruptcy, insolvency, dissolution or winding-up of any third-party crowdfunding platform or exchange for AMTC;
- (13) Any difference, conflict or contradiction between this White Paper and the agreement between any purchaser and any third-party crowdfunding portal;
- (14) Trading or speculation of AMTC by any person;
- (15) Listing or delisting of AMTC on or from any exchange;
- (16) AMTC being classified or treated by any government, quasi-government, authority or public body as a type of currency, securities, commercial paper, negotiable instrument, investment instrument or otherwise that results to being banned, regulated or subject to certain legal restrictions;
- (17) Any damage, loss, claim, liability, punishment, cost or other adverse impact that is caused by, associated with, in connection with, incidental to or relevant to any project, including the project's legality, compliance with law, usage, goal, initiator and team, initiated by anyone;

(18) Any damage, loss, claim, liability, punishment, cost or other adverse impact that is caused by, associated with, in connection with, incidental to or relevant to the risk factors disclosed in this White Paper.

NOTICE TO RESIDENTS OF THE UNITED STATES

The offer and sale of AMTC has not been registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"), or under the laws of certain states as AMTC should not be taken as securities. AMC may not be offered, sold or otherwise transferred, pledged or hypothecated except as permitted under the act and applicable state laws pursuant to an effective registration statement or an exemption therefrom.

NOTICE TO RESIDENTS OF CANADA

Unless permitted under legislation, the holder of AMTC must not trade AMTC before the date that the issuer becomes a reporting issuer in any province or territory of Canada.

NOTICE TO RESIDENTS OF CHINA

AMTCs are not being offered or sold and may not be offered or sold, directly or indirectly, within the People's Republic of China (for such purposes, not including the Hong Kong and Macau Special Administrative Regions or Taiwan), except as permitted by the laws and regulations of the People's Republic of China.

NOTICE TO RESIDENTS OF THE UNITED KINGDOM

In the United Kingdom this document is being distributed only to, and is directed only at: (i) investment professionals (within the meaning of article 19(5) of The Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 as amended (the "FPO")); (ii) persons or entities of a kind described in article 49 of the FPO; (iii) certified sophisticated investors (within the meaning of article 50(1) of the FPO); and (iv) other persons to whom it may otherwise lawfully be communicated (all such persons together being referred to as "Relevant Persons").

NOTICE TO RESIDENTS OF OTHER COUNTRIES

All purchasers must ensure that they are permitted by the laws of their countries to purchase AMTC. The AmberTime team will only ensure that AMTC is legal and compliant with the laws of the issuing country but will not ensure all other countries adopt or use similar laws, especially in the event that the purchaser use other methods to avoid relevant laws or intentionally hide any relevant. The AmberTime team will not be liable for this.

This document has not been approved by an authorised person. Any information to which this document relates is available only to a relevant person. This document is only for relevant persons and non-relevant persons shall not take any action based on this document nor should he/she/they rely on it. It is a condition of you receiving and retaining this document that you warrant to the AmberTime team, its directors, and its officers that you are a relevant person.

The AmberTime team social media and email platform are places where we encourage interaction, discussion, organization and participation between users of the community, in fact anyone interested in the product of the AmberTime team. Whilst we make reasonable efforts to monitor participation to ensure that discussions to be related to products that are made available in the community, there may be situations where we are not in a position to monitor all statements, comments and views made by every user. We ask you to be respectful in your comments. We reserve the right to remove anything we deem to be abusive or personal attacks, material that is unlawful, obscene, defamatory, threatening, harassing, abusive, slanderous, hateful or embarrassing to any other entity or persons, third party advertising, chain letters or 'spams'. Please be aware that anything posted may potentially be read by thousands (or hundreds of thousands) even years from now. Therefore, users should exercise cautions when posting on any of our social media sites.

We also reserve the right to terminate involvement by users who post such content. The views and opinions expressed on any social media sites of ours do not necessarily represent those of the AmberTime team. Therefore, we cannot be held responsible for the accuracy or reliability of information posted by external parties.

Any information posted on any of our social media platforms should not be considered as financial, legal, accounting or other professional advice.

For your safety, never include your phone number, email, address or other personal information in a post. Your comments are visible to all.

Certain information set forth in our website and other documents may contain "forward-looking information", including "future oriented financial information" and "financial outlook", under any applicable laws and regulations (collectively referred to herein as forward-looking statements). Except for statements of historical fact, information contained herein constitutes forward-looking statements and includes, but not limited to, the (i) projected financial performance of AMTC; (ii) completion of, and the use of proceeds from, the sale of AMTC being offered during the token sale; (iii) the expected development of the business, projects and joint ventures; (iv) execution of AMTC's vision and growth strategy, including with respect to future M&A activity and global growth; (v) sources and availability of third-party financing for the AmberTime team's projects; (vi) completion of the AmberTime team projects that are currently underway, in development or otherwise under consideration; (vii) renewal of AmberTime's current customer, supplier and other material agreements; and (viii) future liquidity, working capital, and capital requirements. Forward-looking statements are provided to allow potential purchasers the opportunity to understand management's beliefs and opinions in respect of the future so that they may use such beliefs and opinions as one factor in evaluating an investment.

These statements are not guarantees of future performance and undue reliance should not be placed on them. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause actual performance and financial results in future periods to differ materially from any projections of future performance or result expressed or implied by such forward-looking statements. For further explanation of the risk involved in the AmberTime community please consult the documents as issued by the AmberTime Team.

Although forward-looking statements contained in this presentation are based upon what management of the AmberTime team believes are reasonable assumptions, there can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.

AmberTime undertakes no obligation to update forward-looking statements if circumstances or management's estimates or opinions should change except as required by applicable securities laws. The reader is cautioned not to place undue reliance on forward-looking statements.

7.2 Risk Factors

The AmberTime team believes there are numerous risks involved in the development, maintenance and operation of AMTC, other cryptocurrencies and blockchain technologies, many of which are beyond the control of the AmberTime team. Each AMTC purchaser should peruse, comprehend and consider carefully the risks involved, in addition to the information included in this White Paper, before deciding to participate in the AMTC crowd sale campaign.

Every AMTC purchaser should note that: AmberTime and AMTC only exists in virtual spaces, they do not have any tangible form and therefore do not belong or related to any particular countries.

Participation in the AMTC public token sale shall be an action after careful consideration. The AmberTime team shall deem all purchasers as fully aware of and having agreed to all the risks set forth below:

- (1) Amendment or termination of the campaign;
- (2) Limited availability of sufficient information to be provided by the AmberTime team;
- (3) Immediate use of token sale proceeds by AmberTime team for the development of AmberTime;
- (4) Regulatory measures;
- (5) The advancement in cryptographic technologies;
- (6) Abandonment or development failure;
- (7) Theft of token sale proceeds;
- (8) Flaw in the source code;
- (9) Unpermissioned, decentralized and autonomous ledger;
- (10) Compromised security;
- (11) Cyber-attacks;
- (12) Inadequacy of processing power;
- (13) Unauthorized use of AMTC;
- (14) Loss of private key;
- (15) Forking;
- (16) Popularity of AMTC;
- (17) Market liquidity of AMTC;
- (18) Price volatility;
- (19) Conflict of interests;

- (20) Potential concentrated ownership of AMTC;
- (21) Potential competitors;
- (22) Third party developers and suppliers;
- (23) Potential misuse of AmberTime and AMTC;
- (24) General risks relating to the use of the internet or other electronic medium;
- (25) Tax matters relating to AMTC;
- (26) Other projects on AmberTime.

Please contact the AmberTime team directly if you have any questions about the above risks or need the specific content of the risk factors.