



ugChain—Decentralized Game Account System

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1. Overview

ugChain is an ecosystem consisting of a series of decentralized applications, and its core is a decentralized account system (DAS) based on blockchain technology. The system has built-in exclusive token UG Token (UGT), which simultaneously has the equity attribute and monetary attribute.

The DAS is a decentralized account system featuring user autonomy built on the Ethereum, providing hassle-free user experience in information authorization across service providers - by only requiring user to provide the signature with his/her private key, rather than traditional experience to register and log in with password under each centralized service provider. This architecture enables user to save his/her account by himself/herself without depending on storage of the centralized service provider.

ugChain first entered the gaming industry and teamed up with 360, Hoolai and other China domestic famous game operators to design a gaming ecosystem solution with the application scenarios including game distribution channel, game account trading, game payment, virtual commodity purchase, E-gaming, league holding, crowdfunding, community and other areas.

The ugChain Community is a user autonomy organization, where community members holding the UGT vote decide material affairs of the community, the UGT shares represent voting right, and the UGT holders exercise the supreme power of the community through voting.

1.1 Why a Decentralized Account System

Current mode

"Account" is the most fundamental entry service in Internet world, and barrier between accounts on different platforms constitutes an obstacle in asset transaction across platforms. At present, quick logon is most popular on Internet, but accounts are still controlled by centralized platforms. Therefore, there are risks of monopoly,

restrictions and other threats for different reasons like competition, politics and economy.

Users' account information is saved in the centralized server owned by application service providers. As a result of centralized storage, the service may be vulnerable to risks of being attacked and data leakage. For small application service providers, it's even more difficult to ensure system security.

Internet service provider provides login authorization mode, which has further upgraded user experience but brought in the problem of channel monopoly. For example, in the gaming industry, channel delivers user download, installation, prepayment and other services to game developers but takes about 50% of the income, while developer can get only 20% of the income after exploitation by multiple channel levels.

Solution

The ugChain, a DAS based on the Ethereum, allows users to have accounts as private asset that is not controlled by any institution and permits users to select platforms at their own discretion. Users can connect all platforms with the DAS and use the blockchain to ultimately realize “universal single-sign-on “ across platforms.

1.2 Why Ethereum?

As an open-source public distributed computing platform based on blockchain, the Ethereum provides a decentralized, Turing-complete virtual machine to support the operation of the Intelligent Contract.

The Ethereum is the most mature platform supporting the Intelligent Contracts. Intelligent Contract that feature an active community and good operation of the foundation. Therefore, if we build the ugChain based on the Ethereum, we can focus on business development and ecosystem promotion and avoid spending too much energy on developing the underlying technology of the blockchain.

1.3 Why not build a public chain by ourselves?

To build a public chain, we will definitely spend much energy on developing the chain itself, but if the chain lacks adequate influence, it will possibly affect business development and ecosystem building.

The ugChain is dedicated to blockchain application, focusing on business scenario, first adopting the blockchain-based business model with great effort and promoting the entire blockchain industry to shake off the image that “virtual asset prevails over virtual asset”.

2. UG Token (UGT)

The UG Token, UGT for short, is the blood for the operations of the decentralized game account system. The UGT is a contractual token based on the Ethereum.

The UG Token Contract is realized following the [ERC20 Token standard](#). We have developed many attributes based on the UGT to support the operation of the ugChain, including “standardized asset registration”, “agency asset collection/payment” and “signature-authorized agency transaction”.

2.1 ERC20 Token Standard

The ERC20 Token Standard is an account contract standard that is generally accepted in the community, and governs many famous token contracts based on the Ethereum application. Below is the address to view some of these applications online: <https://etherscan.io/tokens> and the address to search the token contracts based on the standard: [ERC20 Standard Token Explorer](#). Many renowned applications have designed token contracts based on the ERC20, so the UGT has also observed the standard and shared the security attributes of other mature projects to avoid potential risk at the contract level.

2.2 Standard asset registration

The ugChain registers account assets and other virtual assets in the decentralized game account system with the blockchain, and requires authenticated game carriers to sign these assets to assure the reliability of data. Therefore, it is fully reliable to trade accounts and props in the ugChain, which can avoid fraudulent transactions.

2.3 Agency asset collection & payment

When a user is actually using the decentralized game account system, we record other virtual assets with a new account to assure the security of the private key for the user's master account, and allow the master account to pay for the transaction through the agency payment function without leaking the private key to other applications.

2.4 Signature-authorized agency transaction

The Ethereum-based Intelligent Contract will need to consume the GAS when it is used, which is one of the security measures by the Ethereum. However, the user will have to pay the GAS with the Ether, which will make it more complex for common users to use the decentralized application (DAPP). To make common users pay less attention to details of the Ethereum, we have developed the function of agency transaction sending, a third party service that will help common users to pay the Ether to satisfy the consumption of GAS.

The user will have to pay the service fee for transaction by sending with the UGT to a third party, and only after the user authorizes the message in the specific format, can the Smart Contract operate the user's asset. The message signed by the user includes at least the address of the agency sender, service fee, asset change notice and other information, meaning that the user will control the entire process by himself/herself as safe as sending a transaction by himself/herself to the Ethereum.

3. ugChain Ecosystem



Figure 1. ugChain Ecosystem

3.1 The decentralized game account system is superior to the traditional channel

The blockchain technology can realize open, equitable community autonomy of the decentralized organization, with the help of open, transparent Intelligent Contract. The autonomous operation of the DAS organization can replace intermediate links, particularly game account system, of the traditional game distribution process. The DAS is based on the Ethereum. Traditional channels save all account information of users in the centralized server. Instead, the DAS saves all information in the blockchain network and is distributed at fully equitable blockchain nodes worldwide,

thereby ensuring system security and eliminating authoritative nodes.

When applied to the game distribution channel, game account, props and other virtual asset transaction scenarios, the ugChain can resolve a series of problems, including high cost with game distribution channel, long time of traditional game account and prop transaction processing, lack of mutual confidence between seller and buyer, and high risk in transaction. At the same time, the decentralization feature of the Ethereum and the automatic performance of the Intelligent Contract can enhance the openness, fairness and equality of electronic gaming events and allow more players to participate in events without concern.

3.2 Realization of decentralized game account system

A unique token is created on the chain to serve as the identifier of the game asset, and the asset is registered under an address on the chain. As long as the user has the private key, he can prove the attribution of the asset, use the asset, sign to prove the ownership and use other functionalities such as game logon and asset transfer.

3.3 Game registration on the chain

A game carrier can register a game on the chain and become a member of the ugChain Community. The community will decide the onboarding of a game by voting.

If a game is successfully registered, it can be published on the UG platform or recorded by other community members in their own channels for promotion. To obtain users through the ugChain channel, the game carrier will only need to pay a very low cost and save a lot of money compared to the traditional channel.

3.3.1 Community related proposal

Any UGT holder can initiate a proposal in the ugChain community. The content of the proposal must be consistent with the future direction of the entire community. All the community members will jointly vote to adopt or reject the proposal.

3.3.2 Community voting

The more UGT shares, the more voting rights. The status of the block that is the nearest to the initiation time of the proposal can serve as the reference standard for the UGT share.

3.4 Safe account transaction

Under the traditional transaction mode, transactions between players will be processed by the third-party service provider, who will confirm the game asset of the seller, connect the accounts of both the seller and the buyer to transfer the account and fund, and collect a fee. This centralized transaction mode is vulnerable to fraud against the platform, from buyer or seller. The game asset transaction industry is now growing quickly, but the centralized transaction mode has hindered the industry development due to fraud risk, long transaction time and other disadvantages.

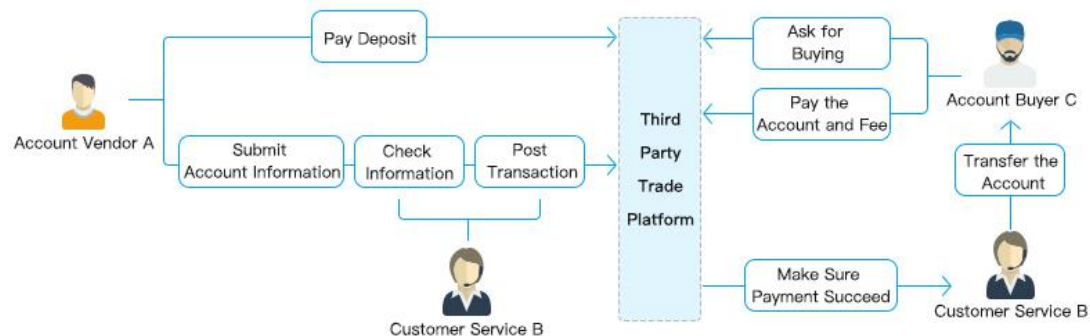


Figure 2. Traditional Transaction Process

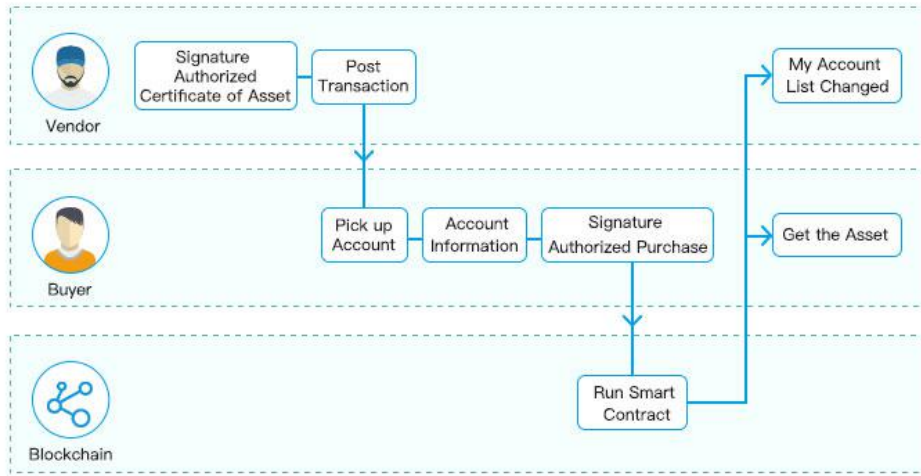


Figure 3.ugChain Transaction Process

The game asset owned by game player can be registered with the chain to correspond to the player's address. Therefore, the user can transfer the game asset safely and quickly through the Intelligent Contract. For the transfer of game asset controlled by the Intelligent Contract, the transaction process will become more transparent, convenient and secure, and the transaction result will be irreversible and permanently traceable.

3.5 Game prepayment and prop purchase

The user can perform game prepayment, prop purchase and other operations with the ugChain platform. The prepayment, other processes involving token payment and transfer of game asset will be performed through the Intelligent Contract. The prop trading will be supported with the asset endorsement from the game carrier. The asset is transferred based on the contract through the chain. The contract performance will simultaneously realize the income sharing to the channel operator, and everybody can become the channel operator.

3.6 Game distribution – Promotion and profit sharing by all people

After obtaining the consent, every game can be onboarded to the ugChain as an open platform and become a community member. Once onboarded, the game can be distributed through the distribution center provided by the UG service provider. Any participant holding a UG account can use the service provided by the platform to create an independent channel and build his/her own promotion and profit sharing system. The ugChain will provide multiple contract solutions so that active participants in the game community can onboard games they want as the channel provider, maintain their user base and obtain corresponding profit distribution when users perform download, prepayment and other operations.

3.7 Electronic sports

Any player can organize competitive games on the chain at any time, and the chain supports 1V1, large league and other modes. Anybody can organize, participate in and initiate the competition of various games on the platform, and participants can build a decentralized electronic gaming platform for all without resorting to any third-party institution.

3.8 True community comments

Only true players registered with the chain can publish messages signed with private keys to the ugChain Community to assure comments are authentic.

4. Governance Architecture of ugChain – Power of Community

Power is attributable to the community

The supreme power of the ugChain is attributable to all users of the community. The ugChain Community is formed by all UGT holders, serves as the supreme authority of the ugChain and establishes a foundation to exercise daily management functions. Users of the ugChain Community can vote to participate in community management and exercise their rights.

ugChain Community has the rights including below:

1. Establish the Community Management Foundation, formulate and revise the articles of association of the ugChain Foundation;
2. The ugChain Community can vote to select the members of the foundation, and establish the foundation;
3. The ugChain Community can vote to decide the development direction and iteration of the ugChain ecosystem;
4. Users can autonomously initiate the onboarding request for a game into the game platform, and community members will vote to decide whether to accept the game;
5. Vote to decide the appointment and dismissal of the Chairman and the Vice Chairman. A resolution will be validated when the voting rights reach two thirds or more of the total with voting rights;
6. Decision on other important affairs.

The ugChain Foundation will accept the annual audit of the community, and an external audit firm will assess and audit the foundation as to operation, potential risk and other areas. The employees of the standing departments will accept annual performance evaluation covering daily community operation, foundation management, community coordination and other work.

5. Peripheral Ecosystem of ugChain

5.1 Exchange

The UG Token is a digital currency that defines explicit application scenarios and accesses a huge circulation market, and will have a vast appreciation potential in future. At the same time, this will also confer investment and speculative attributes to the UG Token, which are similar to transactions of Huobi.com, Yunbi.com, OK Coin and other exchanges. UG Token holders can sell UG Tokens in hand at the exchange, and players also can buy these tokens to pay for game account or equipment transactions or crowd funding projects of independent game developers.

5.2 UG Wallet APP

The UG Wallet is an application that helps users manage their token assets. With the wallet, users can realize UGT or ETH transfer, import or export private keys or check use and transaction records of UG Tokens. Game players also can use the wallet to buy UGT and ETH conveniently.

5.3 UG Game Center

UG Game Center is the main APP in the system that includes game related functions. Its functions include game store, game virtual property trade and game credit refill. UG Game Center holds the game asset as well as the token account information of their users.

6. ugChain Team and Advantages

ugChain's advantages

In 2016, ugChain received a joint investment from Legend Capital, Sequoia Capital, Zero2IPO Venture and Cyberagent;

So far, ugChain has gained more than 500 large and medium game carriers in China (the lineup still keeps growing). At present, ugChain cooperates with these carriers through traditional channels and will directly migrate to the ugChain channel after product launch;

ECG, an electronic game carrier, has joined the ugChain family in advance;

The 360 mobile game aid and other traditional channels have been firstly onboarded to the blockchain wallet of ugChain, while other counterparties will follow;

ugChain maintains good relations with upstream and downstream game companies under Tencent and Alibaba;

ugChain has smooth financing channels, and the founders have entered into cross-industry cooperation and gained rich experience. Major founders have successfully started their own business in the Internet industry and worked as senior executives in the financial investment industry. As well, ugChain has attracted senior executives from domestic large game companies and multinational corporations to join;

The UG team has assembled excellent talents from several areas, including blockchain, cryptology, virtual currency community, Internet information security, finance and gaming service. Below are major members of the ugChain team and their experiences:

Wu Binghua

Founder of ugChain and a veteran in the Internet industry. In 2005, he founded a website called “I want treasure”, which specializes in entertainment, game and electronic commerce, and was finally acquired by a business group after seed, angel and round A investments. In 2012, he started engaging in financial investment and tutored several companies wanting to launch the IPO in the entire process. In 2013, he started watching Bitcoin and blockchain industry. In March 2015, he founded the ugChain team and was dedicated to the application of blockchain technology.

Deng Tiejun

Founder of ugChain, with master's degree conferred by Peking University, He takes charge of the team operations as Managing Vice President. He once worked at Hoolai as a senior executive, and at SABA (a NASDAQ-listed company) China Service Center as the Director and Vice President. In 2012, he entered the blockchain industry and started researching the application of blockchain to the gaming industry. In 2015, he jointly founded the ugChain to formally promote the landing of the application scenarios for blockchain in the gaming industry.

Zhang Yang

He is a founder of ugChain and a graduate from the information security discipline. In 2012, he started watching Bitcoin, always tracking the dynamics of the digital currency and blockchain technology. In 2015, he jointly founded the ugChain.

Liu Bing

He is the founder of ugChain, a graduate from the computer discipline and a senior Java developer. He used to work at Renren.com and led the team to develop the large concurrent cluster application. In 2014, he started researching the blockchain technology and joined the Bitcoin community. As well, he started the work relating to the development of blockchain projects, and once participated in various blockchain projects based on Bitcoin and Ethereum.

Advisors of ugChain team:

Zhou Kui

a partner to Sequoia Capital China. In 1989, he graduated from Wuhan University of Technology with a bachelor's degree in science. In 2000, he graduated with a master's degree in electric automation from Tsinghua University. As a partner of Sequoia Capital China, he joined Sequoia Capital in 2005. As the Senior Vice President, he takes charge of SinoCom investments, Skyinfo, Kaitone and PonymediaWorksoft at the VC firm.

Ni Zhengdong

founder, Chairman and CEO of Zero2IPO Group. Over the past decade, he has led his team to build Zero2IPO Group into the most influential service institution relating to

venture capital and private equity service in China. He is reputed as the “person possessing the most comprehensive information in China’s venture capital market” and also praised as “one of the young representatives in China’s venture capital circle”.

Qiao Wanli

one of the founders of Hoolai (Beijing) Technology Co., Ltd. In 2001, he started working at a research institute under the Chinese Academy of Sciences. In 2008, he started his second career and developed social games as an outsider. His first game Hoolai Hotel enjoyed good word of mouth on Renren.com. In 2010, he left the Chinese Academy of Sciences. In 2011, he developed the Hoolai Three Kingdoms, the first strategic social game launched on the Tencent platform. The game attracted as many as 10 million active users every day and made a good income exceeding 100 million Yuan.

Liu Shiru

the Chairman and founder of Zhangshangzongheng Information And Technology (Beijing) Co., Ltd. Zhangshangzongheng has games and TV products like Emperor Lan Ling, Zombie Evil, Nirvana in Fire, Ice Fantasy, Dragon Blade, The Monkey King and The Grandmaster. A customized education simulation based on famous actress Bingbing Fan attracted lots of attention from fans.

Hou Zhuo

who holds an MBA degree conferred by Hong Kong University of Science and Technology and has more than 10 years of experience in technology, venture capital and investment areas. He is now the partner to Qichen Fund and used to be a VP of Legend Capital and partner of Firestone Capital.

7. Summary

ugChain has applied the blockchain technology to the game ecosystem and realized the trading of game accounts and equipment through the Intelligent Contract leveraging the beneficial characteristics of the technology, including decentralization, elimination of trust intermediary, traceability and tampering exemption, and realized

automatic transaction implementation with the Intelligent Contract embedded in the Ethereum. The ugChain upgrades the security level of virtual asset trading, terminates the long cycle and high cost induced by current account trading modes, saves players' money and time and protects player's interest. At the same time, the ugChain provides a platform for independent game distribution, crowdfunding of games, and decentralized electronic game. The ugChain establishes an entire game ecosystem. In future, the ugChain will continuously explore further how to promote healthy development of the game ecosystem.