



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 4.295

(Volume 4, Issue 2)

Available online at: www.ijariit.com

Blockchain banking system

Nadeem Hassan

nadeemhassan2712@gmail.com

SRM Institute of Science and Technology, Chennai,
Tamil Nadu

Ritwiz Kaustob

ritwizme@gmail.com

SRM Institute of Science and Technology, Chennai,
Tamil Nadu

Mridula Vatsa

mridulavats15@gmail.com

SRM Institute of Science and Technology, Chennai,
Tamil Nadu

Shreyash Gharod

shreyashsrk555@gmail.com

SRM Institute of Science and Technology, Chennai,
Tamil Nadu

Asha

ashasekar02@gmail.com

SRM Institute of Science and Technology, Chennai, Tamil Nadu

ABSTRACT

The banking system in today's world is open to threats of fraud and cyber-attacks. Since today's banking system is built on centralized databases, it is easy for an attacker to penetrate in any such database which will easily compromise all the information and data of the customers of the bank. This vulnerability of today's banking system can be reduced by re-building the banking systems on top of block chain technology, which will remove the centralized database architecture and decentralize the data over the block chain, thus reducing the threat of database being hacked. Since the transactions over the block chain technology is verified by each and every nodes of the chain, it will make the transactions more and more secure thus making the overall banking system faster and secure.

Keywords: Cybersecurity, Cryptography, Block chain, Banking system.

1. INTRODUCTION

One of the essential issues that the banking segment is confronting today is the expansion in misrepresentation and digital assaults. Presently, the greater part of managing an account frameworks are based on a centralised database, which makes them more defenseless to digital assaults as all data is put away locally in one place. Additionally, numerous banking frameworks are obsolete and are, in this manner, more helpless against new types of digital assaults.

By building new managing an account frameworks over block chain innovation, the possibility for extortion and information burglary can be decreased generously as the disseminated record innovation secures records; it stores, scrambles and checks each and every piece of information in an exchange. Accordingly, should any information rupture or false movement happen, it would be made promptly evident to all gatherings who have consent to get to the exchange information on the record.

Consistence and KYC methods have turned out to be progressively essential in the managing an account industry as controllers are keeping a nearby eye on banks' identity working with to stay away from potential illegal tax avoidance or fear based oppressor financing. As per a Thomson Reuters Survey, money related organizations spend by and large \$60 million on KYC and client due industriousness while a few banks spend up to \$500 million every year. Controllers need better access to banks' client customer bases and exchange histories, while banks need to consent to the controller's desires to keep away from administrative fines no matter what. By creating consistence stages and KYC forms over piece chain innovation, banks can decrease operational expenses in these offices as well as increment the productivity of consistence forms and build up a nearer association with the money related controller.

Trading Platforms

Trading stages are a key utilize case for blockchain innovation. By building securities trades over circulated record innovation, there would be no requirement for a concentrated trust or mediators and in addition no danger of twofold spending in the securities-exchanging production network.

The dangers of extortion and operational blunders would likewise be definitely lessened as the blockchain would make the securities-exchanging process straightforward, secure and unchanging. This, thusly, would make a reasonable review trail of every verifiable exchange, which would give confirmation to the credibility of all exchanges.

In the event that every security is digitized by a trusted focal specialist that verifies the security, these advanced tokens could then be exchanged and straightforwardly followed on a blockchain-based trade. As the advanced token would go about as an authentication of realness, the opportunity to fashion securities turns out to be considerably harder than when managing paper archives. That would give securities exchanging another level of certain assume that has not been accessible up until now.

Payments Security

By putting away money related data over a system of PCs, the errand of trading off information turns out to be substantially more troublesome for programmers. Rather than breaching only one server, misrepresenting an adjust or making a deceitful exchange on a blockchain must be accomplished if most of the system is traded off. Hacking a solitary server can be to a great degree troublesome, notwithstanding for the most expert cybercriminals. Having the capacity to bargain enough servers to adulterate records on the blockchain is for all intents and purposes unthinkable, particularly as programmers would need to break every hub all the while.

Smart Contracts

Since blockchains can store any sort of computerized data, including PC code that can be executed once at least two gatherings enter their keys, blockchains empower us to have savvy contracts. This code could be modified to make contracts or execute money related exchanges once a specific arrangement of criteria has been accomplished—conveyance of items could flag a receipt to be paid for instance.

2. LITERATURE REVIEW

This isn't a unique thought, for usage of block chain in banking systems, it has already been implemented in the form of crypto currencies. This is however a unique arrangement for planning a keen banking system with the help of block chain.

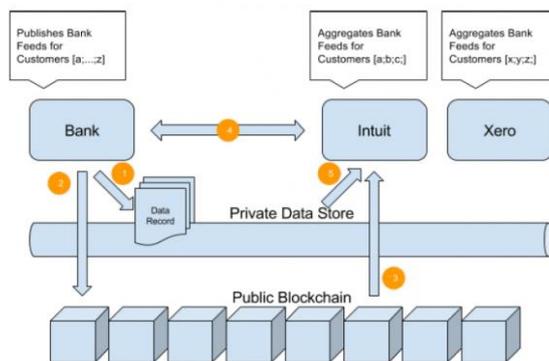
- Morgen Peck, Freelance Technology Writer, Contributing Editor of IEEE Spectrum Magazine Special Edition “Block chain in World” Titled: REINFORCING THE LINKS OF THE BLOCKCHAIN November 2017 IEEE FUTURE DIRECTION S BLOCKCHAIN In this, the creator discussed how the block chain technology can be incorporated with some existing systems
- Blockchain technology innovations Published in: Technology & Engineering Management Conference (TEMSCON), 2017 IEEE. In this, the authors have briefly discussed about the innovations that can be done through block chain technology.
- What Is the Blockchain? Published in: Computing in Science & Engineering (Volume: 19, Issue: 5, 2017). In this article the authors have briefly discussed about the blockchain technology and its concepts.
- Decentralizing Privacy: Using Block chain to Protect Personal Data 2015 IEEE CS Security and Privacy Workshops is a classical article in the decentralizing of privacy by block chain technology

3. PROPOSED SYSTEM

In our proposed system, the traditional architecture followed by banks which consists of a centralized database will be removed. The data will be largely distributed over the block chain which will make the banking systems decentralized. This will not only make the data more secure but also will remove the power centralization. The transactions over the block chain will be in form of encrypted tokens which will be verified by each nodes on the block chain. To make any transaction valid, the nodes of the block chain will have to give the proof of the processing it has done in order to verify the transaction. That proof will be taken in terms of the amount of processing done.

The above mentioned transaction system has two benefits. Firstly it will make the transactions faster by removing the intermediate processes employed in the normal transactions and secondly it will become nearly impossible for an individual to hack the system as it will require a huge amount of processing power which no one has.

4. SYSTEM ARCHITECTURE



The above architecture diagram shows the implementation of banking system on the blockchain architecture

Public Block Chain – the public block chain is the distributed systems which will contain the decentralized banking data

Private Data Store – Some data cannot be decentralized so it will be stored in a centralised system

The Bank will publish feed of the customers over the block chain which will be aggregated by the intuit for the customers. Since the feeds will be decentralized, it will be very difficult to be hacked.

5. EXISTING SYSTEMS

In the existing system the banks has a centralized databases in which each and every customer's data is stored. The transaction process is too slow and it has to be authorized by at least 5 different bodies say: the payment portal the gateway the receiving account the sending account etc., this makes the transaction slower. Moreover it is easier to take control of even one of these body and take control of the whole transaction system. It is expensive for the banks to maintain such large databases transaction systems security, etc.

6. FUTURE ENHANCEMENTS

In future the privacy issue in block chain can be removed and this theory can be actually implemented in the actual banking systems, which will not only make the banking systems more secure and fast, but also it will help the banks and the government to eradicate the black money problem.

7. ACKNOWLEDGEMENT

We are grateful to the cooperation and constant encouragement from our honourable Head of Department **Dr. Jagadeeshan** His regular suggestions made my work easy and proficient.

We would like to express profound gratitude to our guide **Miss Asha** for her invaluable support, encouragement, supervision and useful suggestions throughout this project work. Her moral support and continuous guidance enabled me to complete my work successfully.

8. REFERENCES

[1] Deloitte US PoV: "Investment management firms: getting started with Blockchain.pdf"
 [2] Industry estimates and Deloitte analysis
 [3] Economic times article: "http://economictimes.indiatimes.com/industry/banking/finance/banking/yes-bankupbeat-on-using-blockchain-to-add-moreprocesses/articleshow/56314280.cms"
 [4] Experian, CRM search, Loyyal, Transera
 [5] Deloitte US PoV: "Making blockchain real for loyalty rewards programs.pdf"
 [6] J. Kelly and A. Williams. (2016). Forty Big Banks Test Blockchain-Based Bond Trading System. [Online]. Available: <http://www.nytimes.com/reuters/2016/03/02/business/02reuters-bankingblockchain-bonds.html>
 [7] Kar. (2016). Estonian Citizens Will Soon Have the World's Most Hack-Proof Health-Care Records. [Online]. Available: <http://qz.com/628889/this-eastern-european-country-is-moving-its-health-records-to-the-blockchain/>
 [8] S. Nakamoto, *Bitcoin: a peer-to-peer electronic cash system*, 2009, [online] Available: <https://bitcoin.org/bitcoin.pdf>.
 [9] Y Yuan, F Y. Wang, "Block chain: the state of the art and future trends [J]", *Acta Automatica Sinica*, vol. 42, no. 4, pp. 481-494, 2016.
 [10] I. Bentov, R. Kumaresan, "How to use bitcoin to design fair protocol", s. *In International Cryptology Conference*, pp. 421-439, August, 2014.
 [11] "A next-generation smart contract and decentralized application platform", *Ethereum White Paper*.