SECURE FINANCIAL TRANSACTIONS WITHOUT THE NEED OF TOKENS AND BY USING BLOCK CHAIN TECHNOLOGY

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ABSTRACT:

People's lives have been completely transformed by the rise of digital technology. The banking sector has identified several threats and frauds. Because the financial system utilizes a centralized database, it is simple for an attacker to access data, making the system insecure. By restructuring the system and employing blockchain technology without the need of tokens, it is possible to reduce the disadvantage of this centralized system. For storing and retrieving data via a database, blockchain uses a decentralized architecture. Attacks on hacked databases reduce as a result. Every block in the chain verifies a transaction made using blockchain technology, improving transaction security and accelerating the functioning of the banking system.

KEYWORDS: Blockchain technology, tokens, distributed databases, cryptocurrency, safety and security.

I.INTRODUCTION

Blockchain was originally used on the Bitcoin cryptocurrency. This technique was initially suggested in 2008 to produce bitcoin, a successful cryptocurrency, and was implemented in 2009.

Blockchain innovation supports and powers electronic currency. Blockchain plays an essential role in validating and authorizing digital currency transactions. It has a unique structure that does not include a third party. When a fresh transaction is requested, a new block in the current blockchain is established by validating that block, and so the chain grows.

In order to protect customer data against hackers, which are becoming more common every day, the banking sector as a service must manage and secure it. Commercial banks are essential to today's financial organizations because they provide the client's satisfaction and dependable services while being able to withstand data leaks and attacks. An alternative approach that is costly and time-consuming is offered for this security reason, making it less effective [1]. Blockchain to provide customers with a dependable and quick method. So, the blockchain is a preferred solution.

The blockchain includes a peer-to-peer network. In the blockchain, the key features of this

distributed system are fault tolerance and extensibility. It is crucial to secure the distributed data structure from data loss, internal failure, and system termination [1].

Blockchain technology is the main technique for maintaining reliability in a decentralized system. Blockchain is about storing advanced information (chunk) in a public database (chain). The blockchain is entirely decentralized and the data is distributed among several PCs. This suggests that nobody has authority over blockchain, a massive database that is controlled and managed by several entities and groups. The blockchain system combines improvements in private keys with well-organized and shared information.

II. LITERATURE SURVEY

Natalia A. Popova, Natalia G. Butakova.al [1] discussed how to enhance the security and performance of banks' transactional information. After the formation of a new block, the whole transaction history may be tracked. The consensus protocol resolves the issue of competing access. This protocol validates all completed transactions. Certain transactions' temporary balance requirements have been abolished. The Merkle tree calculates the hash value for block hashing.

Satoshi Nakamoto and others [2] suggested Bitcoin, a peer-to-peer electronic money system. Online payments or transactions are sent directly from one person to another without the need of a financial institution and include peer-to-peer communication. Digital signatures perform a limited function in security. The suggested method utilizes data verification and safe money transmission via bank validation.

Blockchain is a system where there can be no exception because a transaction is wrapped into the blockchain which cannot be hacked. High

requirements like reliability and honesty for a business, where they can use blockchain to Attract customers such as cash back. In addition to the distributed functionality that can provide an avoidance to the single point of failure situation. Blockchain faces several problems even if it has a great future.

Tareq Ahram1, Arman Sargolzaei2, Saman Sargolzaei3,4, Jeff Daniels5, and Ben Amaba6 et.al tells about innovation to the blockchain. The efficient use of analytics and cloud technology, mobile, social media, and IoT (Internet of Things), had led the digital world to new creations. A new perspective to security, resiliency, and efficiency are the few terms that are introduced by the blockchain. Blockchain gained huge popularity through bitcoin and formed a foundation for cryptocurrency. A secure way of transaction, goods, services are provided by blockchain technology. Challenges like transaction security, frauds hacker attack blockchain is a quicker and easy chain provider and faster integration with cloud technology and IoT. IBM Blockchain is used for developing and formalizing the healthcare industry. The concepts are preferable to a huge range of manufacturing industries, government, and finance where efficiency, security, and scalability must meet the needs.

Sachchidanand Singh, Nirmala Singh, and colleagues [10] discussed the use of blockchain technology in the future of financial and digital safety. This paper addresses the necessity for blockchain and provides an overview of how bitcoin works. Adoption of the Internet of Things (IoT) can influence the banks & the future of banking. IoT is one of the primary issues on which the blockchain concentrates. Bitcoin employs hash, which is a result of the Secure Hash Algorithm 2 (SHA-2). A large quantity of data is converted into a fixed-length hash value via the hashing process. A minor variant of the

same hash method is utilized in public blockchain.

III.PROBLEM STATEMENT

A transaction is contained inside the blockchain, which cannot be hacked, hence there can be no exceptions. High standards such as dependability and honesty for a firm where they may utilize blockchain to attract clients such as cash back. In addition to distributed functionality that can help to avoid a single point of failure issue. Even though blockchain has a bright future, it confronts significant challenges.

Blockchain technology is a distributed system that relies on entire data verification and validation without regard for Miners or Tokens. Eliminating the usage of miners or tokens may result in a more transparent and load-free network, increasing transaction durability.
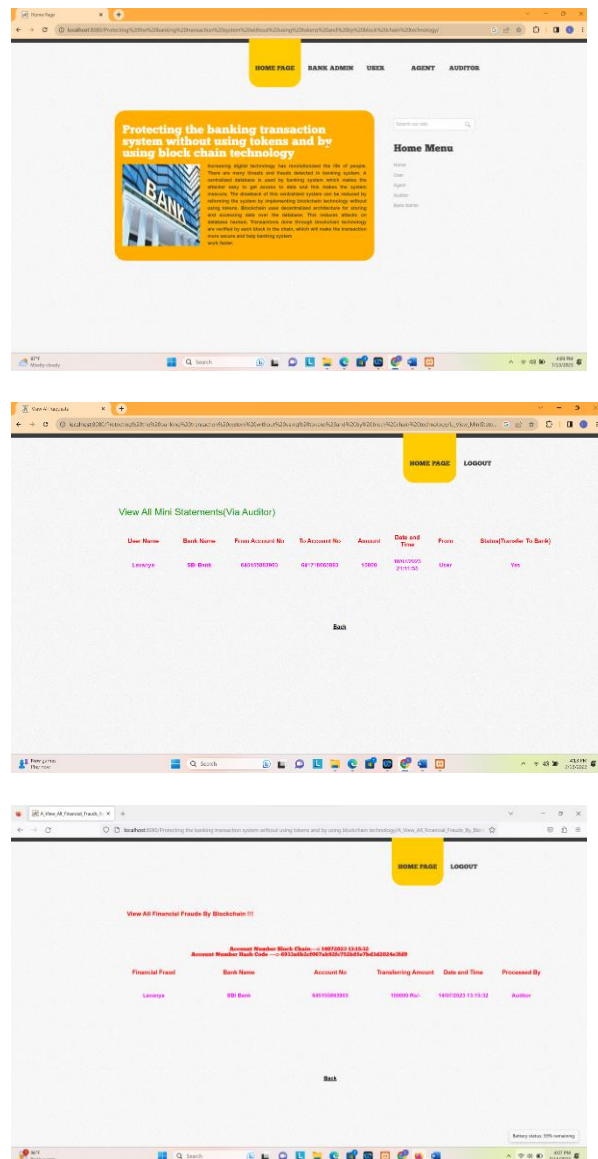
METHODOLOGY:

In this section, we present our proposed scheme for secure banking transaction. First, we register the user details and generate account number, private key. Finally, we secure the banking transaction.

ARCHITECHTURE:
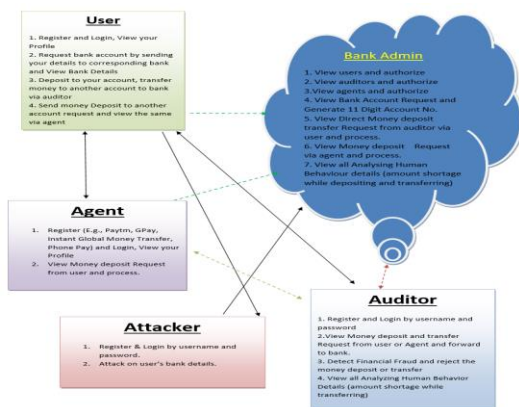
IV.RESULTS

V.CONCLUSION

Finally, the paper concludes that the proposed system defines a security of the system. Blockchain technology is a distributed system that works on total verification and validation of data without consideration of Miners or Tokens. Eliminating use of miners or tokens may lead to create transparent and load free network, which increase in survivability of transaction. By adopting blockchain in the distribution of databases on banking systems one can reduce

attacks on the system. Blockchain without tokens plays a vital role in building a system which is more reliable for banking to perform transactions that have to be secure at a very high level.

VI.REFERENCES

[1] Natalia A. Popova, Natalia G. Butakova "Research of a Possibility of Using Blockchain Technology without Tokens to Protect Banking Transactions", ‖ 978-1-7281-0339-6/19/$31.00 ©2019 IEEE.

[2] Lianxiang CUI, Kehong YUAN, Xiaoyu ZHAO, Larry Y. D. MOU "Construction of Elderly Mutual Aid Time Bank Based on Blockchain"2375-0324/19/$31.00 ©2019 IEEEDOI 10.1109/MDM.2019.000-1. ‖ 2019 20th IEEE International Conference on Mobile Data Management (MDM).

[3] Xuheng Lin, Ronghua Xu, Yu Chen, J. Koji Lum" A Blockchain enabled Decentralized Time Banking for a New Social Value System", 2019 || IEEE Conference on Communications and Network Security (CNS), 2019

[4] Pasu Poonpakdee, Jarotwan Koiwanit, Chumpol Yuangyai and Watchara Chatwiriya "Applying Epidemic Algorithm for Financial Service based on Blockchain Technology" 978-1-5386-4956- 5/18/$31.00 ©2018 IEEE

[5] Ali Kan Koç, Emre Yavuz, Umut Can Çabuk, Gökhan Dalkilic, ‖ Towards Secure E-Voting Using Ethereum Blockchain‖ 2018 IEEE.

[6] Ibra Ahmed, Shilpi, Mohammad Amjad "Blockchain Technology A Literature Survey." || International Research Journal of Engineering Technology (IRJET) Volume:05 Issue:10 | Oct2018.

[7] Rohmat Taufiq, Meyliana, Ahmad Nizar Hidayanto, Haryanto Prabowo "The Affecting Factors of Blockchain Technology Adoption of Payments Systems in Indonesia Banking Industry " 978-1-5386- 5821-5/18/$31.00©2018 IEEE. ||2018 International Conference on Information Management and Technology (ICIMTech)

[8] Antony Vigil, Prakash Pathak, Shubham Upadhyay, Deepankar Singh, Vaibhav Garg "Blockchain Over Transaction System??"978-1-5386- 4765- 3/18/$31.00 ©2018 IEEE || Proceedings of the International Conference on Communication and Electronics Systems (ICCES2018)

[9] Xin Wang, Xiaomin Xu, Lance Feagan, Sheng Huang, Limei Jiao, Wei Zhao "Inter-Bank Payment System on Enterprise Blockchain Platform "2159-6190/18/$31.00 ©2018 IEEEDOI 10.1109/CLOUD.2018.00085.2018 IEEE 11th International Conference on Cloud Computing.

[10] Sachchidanand Singh, Nirmala Singh ‖ Blockchain: Future of Financial and Cyber Security‖ 463978-1-5090-5256-1/16/$31.00 cˇ2016 IEEE || 2nd International Conference on Contemporary Computing and informatics (IC3I)

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