

Bank Transactions Retention System Utilizing Block chain

Mohd Riyaz Mansoori ^{#1}, Arjun Rajput ^{*2}

Dr. Sanjay Sharma^{*3}, Dr Surabhi Karsoliya^{*4}

^{1,2,3} Department CSE, Technocrats Institute of Technology (Excellence), Bhopal (India)

⁴Department CSE, Technocrats Institute of Technology, Bhopal (India)

riyazsam74@gmail.com^{#1} rajarjun07@gmail.com^{*2}
sanjaysharmaemail@gmail.com^{*3} surabhi.karsoliya@gmail.com^{*4}

Abstract—One Block chain technology is proving to be highly valuable for financial service providers by enhancing authenticity, improving security, and supporting effective risk management. Many institutions are now integrating block chain into their trade and finance systems to implement smart contracts, increase operational efficiency, promote transparency, and explore new revenue models. Its unique method of recording transactions is making traditional clearing and settlement processes obsolete. Additionally, banks and financial entities are increasingly using blockchain-based digital identities to verify individuals securely. The ability of organizations to anticipate future trends in blockchain applications and adapt accordingly plays a crucial role in maximizing its benefits. Blockchain technology also facilitates the secure transfer of asset ownership and helps maintain accurate financial ledgers. For accounting professionals, the focus lies in three main areas: measuring, communicating, and analyzing financial data. Blockchain enhances their ability to verify asset ownership and obligations, potentially increasing productivity.

Index Terms— CSRC, Transformer, migrate

I. INTRODUCTION

The financial services industry is undergoing a rapid transformation driven by the emergence of blockchain technology. Initially developed as the foundation for cryptocurrencies, blockchain has evolved into a powerful tool that offers increased transparency, enhanced security, and more efficient data management. Its decentralized and tamper-proof nature makes it especially suitable for financial applications where trust, accuracy, and speed are crucial. Blockchain enables the creation of smart contracts, allowing financial institutions to automate transactions and agreements without the need for intermediaries. This not only reduces operational costs but also minimizes errors and delays in processes such as clearing and settlement. As a result, traditional systems are being reconsidered in favor of more streamlined and secure blockchain-based alternatives. Financial institutions are also adopting blockchain-enabled

digital identities to improve customer verification while protecting personal data. In the accounting domain, blockchain has introduced new ways to measure, communicate, and analyze financial information. Its ability to clearly establish asset ownership and obligations holds the potential to significantly improve productivity and reduce financial discrepancies. Moreover, blockchain-based credit reporting systems have shown to offer superior security when compared to conventional methods, helping protect sensitive customer data from breaches.

II. LITERATURE SURVEY

This paper is to improve the performance of Hyperledger Fabric that is one of the private blockchain open-source projects. The decentralization of data management, which has recently become important, is realized as a blockchain. Blockchain is a technology used in various fields such as data verification, storage, and banking, but performance is one of the important problems and is always mentioned. This is because a transaction must be agreed quickly and recorded in the ledger so that it can be used smoothly in systems that generate tens of thousands of transactions per second, such as banking and card use. Hyperledger fabric sends transactions generated by clients to peer nodes on the network. The transactions are hashed with the previous block in the distributed ledger. Peer nodes collect transactions received from multiple clients and execute chain code for verification, which is then sent to the ordered node and made into blocks.

III. EXISTING SYSTEM

Blockchain technology holds significant potential to support the growth and modernization of capital markets. Traditional methods of trade financing have long been criticized for being slow and inefficient, often disrupting business operations and creating challenges in managing liquidity. Blockchain offers a solution by simplifying cross-border transactions and improving the efficiency of trade finance processes. It enables secure, seamless business transactions across regional and international boundaries.

Due to its unchangeable (immutable) record-keeping capability, blockchain is especially effective for real-time tracking of goods as they move through the supply chain. It allows businesses to manage and organize operations such as assigning goods to specific shipping containers with greater accuracy and flexibility.

IV. PROPOSED SYSTEM

Block chain is a digital database that allows for the simultaneous storage of operational records across multiple systems. It stores digital information—such as transaction details, contracts, and contact data—in a structured sequence of linked blocks. One of the key challenges in the current financial system is the lack of clear and transparent regulations, which often leads to errors and misinterpretation of information. Blockchain helps overcome many of these issues by providing a secure and accurate method of record-keeping, significantly reducing financial risk. As awareness of blockchain technology continues to grow, more organizations are exploring how to adopt and leverage its benefits. While still limited to a relatively small group of early adopters, its potential is increasingly recognized. Just as banks were originally established to bring people together and facilitate safe and efficient trade, blockchain now offers a global platform that simplifies and secures a wide range of transactions and operations.

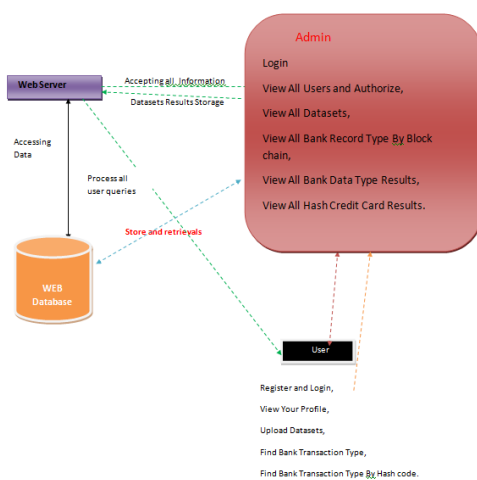


Fig: Architecture Digram

A. Advantages

The proposed system leverages blockchain technology to lower costs for both financial service providers and end users while improving transparency, efficiency, trust, and security in payment processes. Traditionally, interbank transactions could take several days to complete. However, with the introduction of digital currencies and distributed ledger technologies, these transactions have become faster, more cost-effective, and more convenient. Central banks are actively exploring the integration of distributed ledger technology into modernized payment systems.

V. IMPLEMENTATION

In the proposed Bank Record Storage System using Blockchain, the platform is designed with two primary modules: User and Admin. The User module allows registered users to upload bank-related data through a secure upload interface. During the upload process, the system automatically identifies and categorizes the dataset based on the type of bank record, such as transaction details, loan information, or customer profiles. This ensures that records are correctly classified for better management and retrieval. The uploaded data is then securely stored using blockchain technology, ensuring immutability, transparency, and tamper-proof storage. On the other hand, the Admin module provides comprehensive control and oversight capabilities. The admin has access to view and manage all uploaded datasets, verify their authenticity, and monitor their classification. Additionally, the admin handles user registrations and maintains a list of all registered users, ensuring only authorized individuals can access the system. The admin also has the ability to oversee system logs, manage blockchain entries, and ensure compliance with data integrity standards.

VI. RESULT

The implementation of blockchain technology in the storage and management of bank records has demonstrated significant improvements in data integrity, security, and transparency. Users were able to upload various types of bank datasets, which were automatically categorized and securely stored on a tamper-proof blockchain ledger. The system successfully identified the type of bank records during upload and provided seamless access to authenticated users. Admins were able to efficiently manage and verify the uploaded datasets, as well as monitor user registrations and access logs. Overall, the system proved to be reliable, efficient, and secure, offering a streamlined approach to handling sensitive financial data.

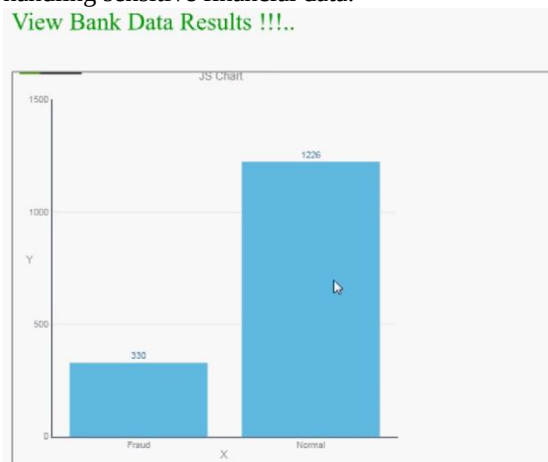


Fig: Resultant graph

VII. CONCLUSION

The proposed blockchain-based bank record storage system offers a transformative solution for managing financial data with enhanced trust, accountability, and security. By leveraging blockchain's decentralized and immutable structure, the system eliminates the risk of

unauthorized data manipulation and ensures that all records are verifiable and traceable. The separation of user and admin roles ensures structured access control, while automated record classification improves operational efficiency. This study concludes that blockchain technology can significantly modernize the traditional banking record management process, paving the way for secure, transparent, and efficient financial data systems.

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