Block chain Enabled KYC Solutions

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Abstract **--** A rule for the financial system's validation of a customer utilising identification, appropriateness, and risk assessment is known as the "know your customer" or "know your client" (KYC) principle.The KYC process is complicated and expensive to complete for a single customer due to the rising security concerns.In this work, we propose an economical, swift, secure, and transparent platform for KYC document verification for the Banking system through Interplanetary File System (IPFS) and blockchain technology. With the suggested approach, a consumer can create an account with one Bank, finish the KYC procedure there, and then build a hash value using the IPFS network and share it using blockchain technology.Any bank or financial institution that has the private key can retrieve and securely store customer data (such as KYC) over the IPFS network if the customer wants to register a new account there. The proposed system can save time, money, and repetitive work during the KYC process when someone tries to open an account at multiple banks.

Keywords–KYC, IPFS, DLT, Decentralized data,Hyperledge

I. INTRODUCTION

Blockbuster cryptocurrencies like Bitcoin and Ethereum, which remain the only large-scale uses of blockchain technology, helped make blockchain technology renowned. The phrase "Know your customer" (KYC) is used frequently in the banking and financial industries. At this moment, the manual KYC process is outdated and has become a necessity to automate the KYC verification process. Studies around the world have made several attempts to make a better verify- cation process for KYC. Many academics tried to propose a Blockchain-based solution. Blockchain technology recently draws the attention of the public, as a dispute that leads to the foundation that the trust-free economical transaction is possible with its distinctive method.Through a procedure known as KYC, banks collect information on the names and addresses of their customers. This procedure is used by banks to learn the name and address of its clients. KYC is a procedure used to better understand potential clients' actions and confirm their legality.Due diligence is a procedure used to verify the reliability of clients that is under the control of regulators. This process helps to stop the exploitation of banks' services. Banks are required to go through the KYC procedure when creating new accounts. Furthermore, banks are required to regularly update their clients' KYC information. Across institutions, KYC may be time-consuming, repetitive, and manual.By exchanging KYC data on Blockchain, financial institutions will be able to improve compliance outcomes, increase efficiency, and improve customer experience. Blockchain technology is totally immutable, safe, tamper-resistant, and decentralised. Only authorised users will have access to the data in the blockchain network, ensuring transparency. The KYC chain and this blockchain could be used together to offer decentralised data storage and transparency. Financial institutions would be able to produce better compliance results by sharing KYC information on Blockchain, which would also increase efficiency and improve customer experience. Data redundancy and high

maintenance costs for sensitive data result from managing the same client information across numerous banks and financial sectors. Additionally, the traditional system lacks security. With a blockchain-based strategy, all of the problems with the traditional method of KYC

A. Ipfs

The InterPlanetary File System (IPFS) is a peer-to-peer(P2P) file-sharing protocol connecting computing devices for sharing/storing files/data.The content is uniquely recognized in the global namespace using the hash code of the

B. Hyperledger Fabric

Hyperledger Fabric, an open source project from the Linux Foundation, is the modular blockchain framework and de facto standard for enterprise blockchain platforms. Intended as a foundation for developing enterprise-grade applications and industry solutions, the open, modular architecture

II. PRESENT SYSTEM

The previous KYC process required users to provide banks or other financial institutions with the necessary identity documents so that the bank could conduct a background check and identity verification for the user. This required multiple copies of the provided documents, which increased paperwork and risk. The outdated system is completely ineffective due to the risk and expense involved. With the development of new technologies every day, numerous academics have only recently suggested remedies to the aforementioned issue. Big data analytics were employed by Soni and Duggal in 2014 to provide a solution to the issue of enormous data involved in KYC.For the same, they employed techniques like fuzzy matching and map-reduce. In 2017, Moyano and Ross proposed using distributed ledger technology (DLT) to do KYC. However, there is still the issue of the high expense of storage. Even while the current approach is safe, it is not economical. Blockchain storage is excessively expensive; according to estimates, a GB of storage costs $100.

III. PROPOSED SYSTEM

To address the aforementioned issue, the suggested system uses IPFS (Interplanetary File System) and Hyperledge Fabric. A peer-to-peer distributed file system called IPFS has benefits including content addressing and no duplication, among others. We receive a distinct, fixed-length IPFS hash for each file. Instead than storing the

verification can be solved. We even prevent third party interference by giving the user control over the data.This paper aims to address the various issues that bank and customer face and also revamp the former KYC system by adding a new dimension IPFS and Hyperledge Fabric.

file. If the hash code is altered, the data can not be verified which will be identified by IPFS. Besides, IPFS identifies duplication if files with the same content are stored.

uses plug-and-play components to accommodate a wide range of use cases. It is an open, proven, enterprise-grade, distributed ledger platform. It has advanced privacy controls so only the data you want shared gets shared among the "permissioned" (known) network participants.

entire file, IPFS keeps the file's hash on the block chain. The actual file may then be found using this hash, preventing file duplication on the Blockchain. It's similar like inviting someone over and, rather than literally bringing them a place to stay, giving them directions to your actual residence so they can find you easily. By connecting the user's file with the verifier id, we will also use a two-way authentication check of documents.
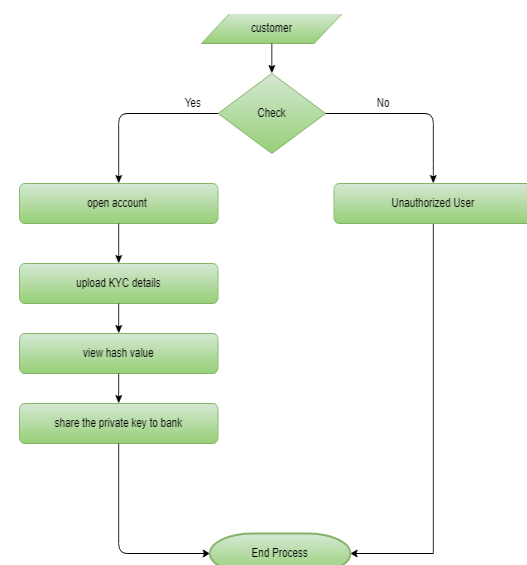
IV.DATA FLOW DIAGRAM

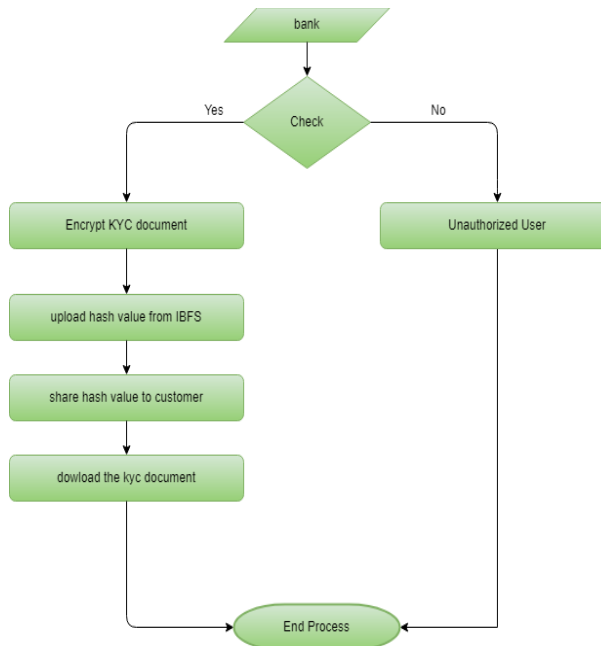Fig. 1 Data flow diagram for customer to open an account

Fig. 2 Data flow diagram for bank encrypting the KYC documents of customer.

Fig. 3 Advantages of blockchain technology in KYC process

IV. CONCLUSION

In this article, we suggest a more sophisticated, dynamic KYC system that uses blockchain technology and lowers the cost of the KYC procedure. Our suggested solution's major objective was to rethink the conventional KYC procedure. The redundant and ineffective KYC process now in use is addressed in this suggested document, significantly reducing the system's operating expenses.By using a blockchain-based strategy, we also get rid of the possibility of a single point of failure. With the use of IPFS, we tried to improvise when building this system. Due to the absence of a third party, the user will also benefit from the architecture's security features.

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