

## OPTIMIZING THE KYC VERIFICATION SYSTEM USING ETHEREUM BLOCKCHAIN

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### ABSTRACT

With today's advances in digitalization, people use their personal identity documents on a daily basis, which are shared with third parties without their prior authorization and maintained in a number of random places. Government organizations, banks, credit agencies, and other financial institutions keep such identity information in their own databases. The presence of such sensitive information in several places raises the likelihood of vulnerabilities. For a long time, the financial industry has been looking for answers to such difficulties, and one feasible alternative is blockchain. By keeping a single safe database on blockchain, the Know Your Customer (KYC) verification procedure reduces the repetitive KYC checks that banks presently do. Because blockchain is immutable and unalterable by definition, illegal modifications to data are instantly invalidated. Blockchain's decentralized design will enable the collection of data from different authoritative service providers into a single immutable, safe, and verified database. The Blockchain KYC system uses a secure, public digital ledger to provide rapid and fully secure identity verification.

**Keywords:** Know Your Customer, Blockchain, Ethereum, Tokenization, Smart contract, decentralization, Immutable ledger.

### 1. INTRODUCTION

The Know Your Customer (KYC) process is a crucial component of the financial sector, ensuring compliance with regulations and safeguarding against financial crimes such as money laundering and terrorist financing. However, traditional KYC procedures are often cumbersome, time-consuming, and prone to vulnerabilities due to scattered data storage across multiple databases [1].

These challenges have led to the exploration of innovative solutions, with blockchain technology emerging as a promising avenue for optimizing the KYC verification process.

Blockchain technology, particularly Ethereum's blockchain, offers a decentralized framework for developing applications, including smart contracts, which can revolutionize KYC procedures [2].

By leveraging Ethereum's blockchain, the project aims to address the inefficiencies and vulnerabilities inherent in traditional KYC systems, offering a secure, transparent, and streamlined approach to identity verification in the financial sector.

### 2. EXISTING SYSTEM

A blockchain-based KYC confirmation system that would create a block for each bank was presented in writing. The client should enter the KYC data after each bank's block has been created. This data is then kept in the blockchain network by opening a blockchain account through the client account.

They can then demand that the bank open a record for their sake, and the information will be put away on the blockchain. Just the shopper can alter or change the data contained in a blockchain, and just with their assent. Just the mentioning bank might get to the client KYC desk work by presenting a view solicitation to the client profile. The customer can decide to acknowledge or dismiss the solicitation when it is shipped off their profile.

#### Disadvantages of the existing system:

1. Despite the fact that blockchain is utilized in the ongoing work for KYC check, our answer might offer a more significant level of information security and changelessness than the current work.
2. Clients should over and over give KYC data to each bank under the ongoing framework, which brings about dreary information section. Clients might view this as baffling and tedious.
3. In the existing system, the customer's access control options are restricted to "allow" or "deny." This could be restrictive, especially in cases where more nuanced access control is needed.

## 4 PROPOSED SYSTEM

We want to foster a framework that use the capacities of the Ethereum blockchain to safely store and recover client or client information, as well as to plan natural UIs that monetary foundations and clients can use to send and get information. Using blockchain innovation, the Know Your Client (KYC) confirmation process limits the quantity of monotonous KYC makessure that banks presently perform. Unlawful information refreshes are quickly negated on the grounds that blockchain is by definition permanent and unalterable. The decentralized engineering of blockchain innovation will work with the solidification of information from a few trustworthy specialist co-ops into a bound together, secure, and approved data set. The Blockchain KYC arrangement offers fast and totally secure character confirmation using a public, secure computerized record.

## 3 WORKING PRINCIPLE

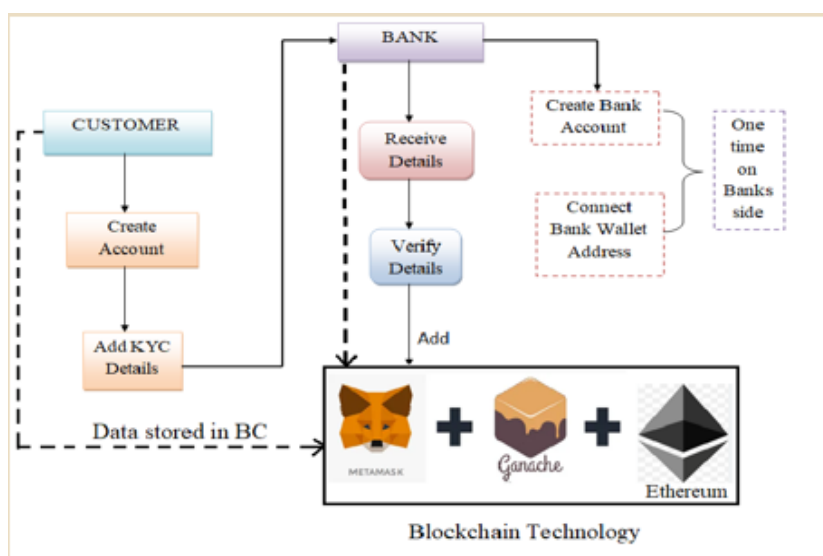


Fig 1: Project flow

### Advantages of the Proposed System:

1. The Ethereum blockchain, eminent for its solid security highlights, is used in our work. In contrast with the ongoing framework, this gives a more elevated level of information security, bringing down the chance of information breaks and unlawful access.
2. We influence the decentralized quality of blockchain innovation to assemble data from different respectable specialist co-ops. It turns into a solitary, brought together, and confirmed data set therefore, expanding its viability and constancy.
3. Our work is expected to be faster and more powerful in handling KYC demands, diminishing hang tight times for clients and monetary establishments. This is made conceivable by Ethereum's blockchain, which empowers speedy and totally secure personality check.
4. The blockchain of Ethereum is extremely impervious to undesirable information adjustments since it is permanent by plan. This ensures the precision and consistency of KYC information.

## 4 RESULTS



Fig 2 Home page



Fig 3 open an account page



Fig 4 kyc form page

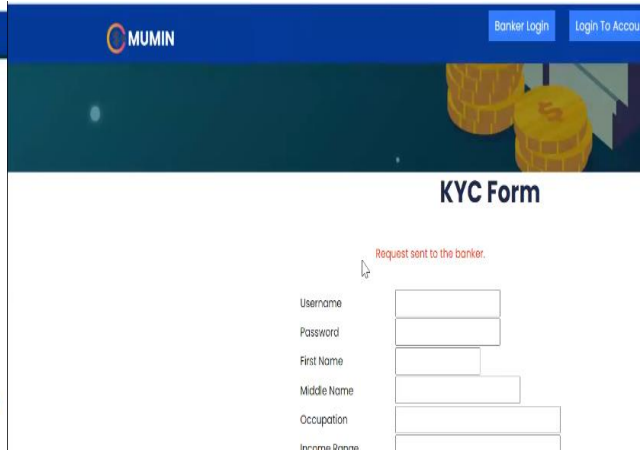


Fig 5 request sent to the banker



Banker Login Screen

Username: admin  
Password: [masked]  
[Login Banker](#)

Fig 6 banker login



Fig 7 banker login page



Fig 8 main page

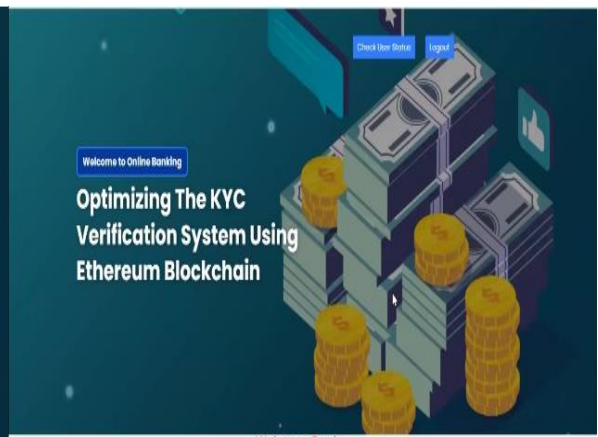


Fig 9 check user status page



View Users



View Users

Username/Password	First Name	Middle Name	Occupation	Income Range	DOB	Gender	Full Residential Address	Phone Number 1	Phone Number 2	Email	Country of Residence	Action
Swathi	1234	Swathi	Pall	python developer	5	1997-12-29	Female, Jeedimetla	765988620	768466020	swathi34@gmail.com	India	Already Submitted
Ramesh	1234	Ramesh	Kumar	python developer	6	1997-07-26	Male, Suranam	765988620	967738520	ramesh123@gmail.com	India	Click Here to Accept/Decline

Fig 10 view users page

Fig 11 details page



Fig 12 mark status

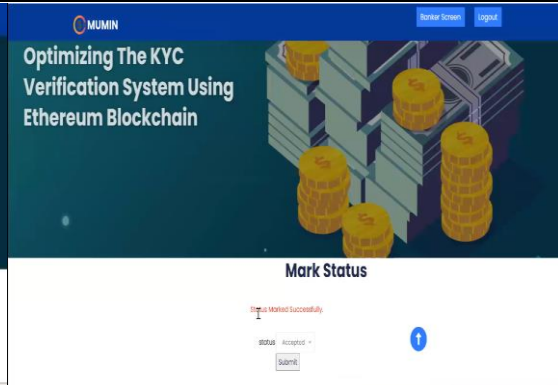


Fig 13 status marked successfully page



Fig 14 logout



Fig 15 login to account



Fig 16 user login page



Fig 17 main page



Fig 18 deposit amount

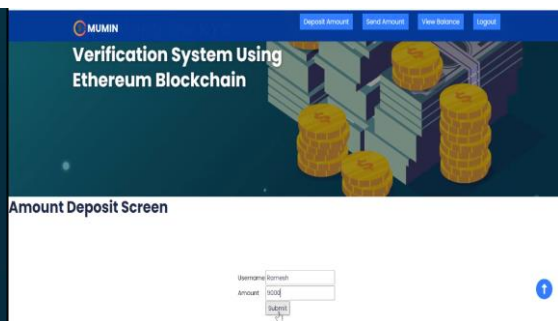


Fig 19 amount deposit page



Fig 20 money added to user account page



Fig 21 send amount page

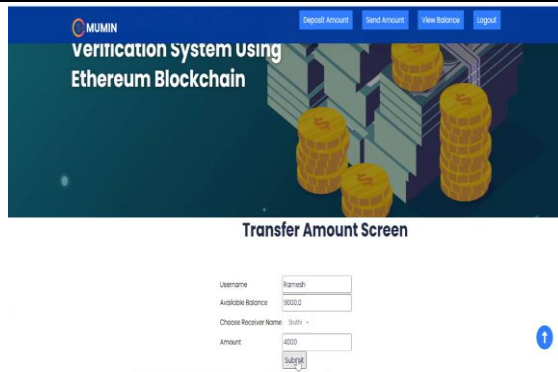


Fig 22 transfer amount page



Fig 23 online banking page



Fig 24 view balance page

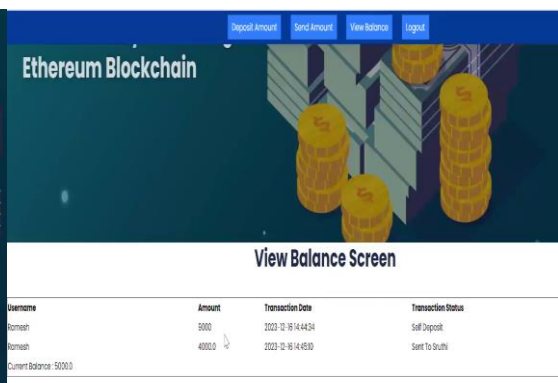


Fig 25 view balance page

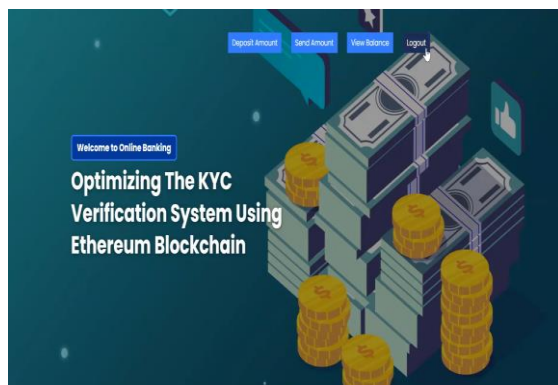


Fig 26 logout page

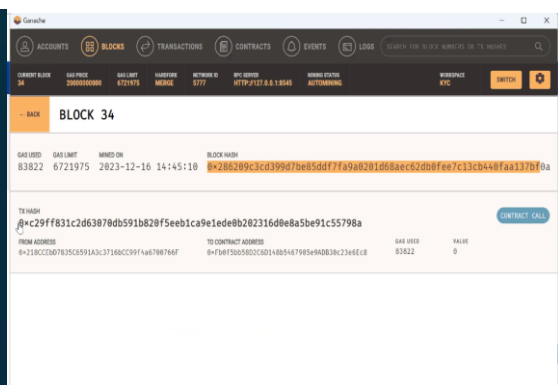


Fig 27 Ganache

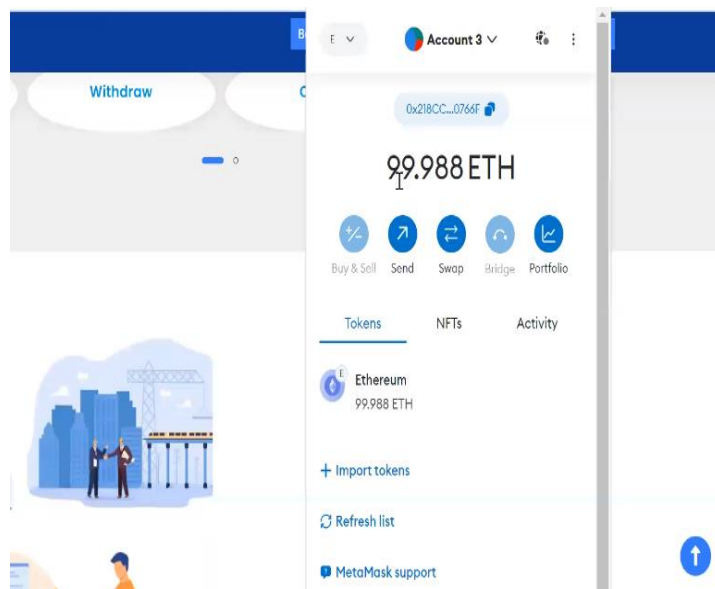


Fig 28 Metamask

## 5 CONCLUSION

In this project, We have analyzed the merits and the drawbacks of the previously implemented systems and its benefits. The results of our review showed the shortcomings of the traditional KYC system and the demand for a better architecture that is secure and safe from the current redundancies. We have found the implementation of blockchain technology for such a system to be appropriate and feasible. The nature of blockchain is immutable and decentralized which is exactly the requirement for the desired system.

The majority of the review studies show that blockchain is the necessary technology to improve the finance sector not only limited to the KYC process. The issues in the current KYC process is greatly apparent when compared to the similar systems that use blockchain. Overall blockchain is one of the most promising technologies for KYC process and required to create the system that eliminates the inconsistencies of the current system.

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