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Decentralized Payment System By Using Blockchain

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ABSTRACT: The correspondent banking process in existing interbank payment systems involves numerous intermediaries in different time zones, resulting in expensive cross-border transactions with lengthy transaction delays and a lack of transparency. To address these issues, a proposal is made to create an auditable coin on a permissioned blockchain that can be controlled by a set of administrators. The suggested approach uses an auditable cryptocurrency that supports unspent transaction output-based transactions in a consortium blockchain network to provide a low-cost, seamless cross-border payment system. In this system, participating nations use the power-efficient proof of authority consensus method with equal privileges. Dynamic decentralized identifiers (DIDs) are used as transacting addresses instead of traditional cryptocurrencies, allowing for self-manageable authentication.

KEYWORDS: BLOCKCHAIN, SMARTCONTRACT, METAMASK.

I. INTRODUCTION

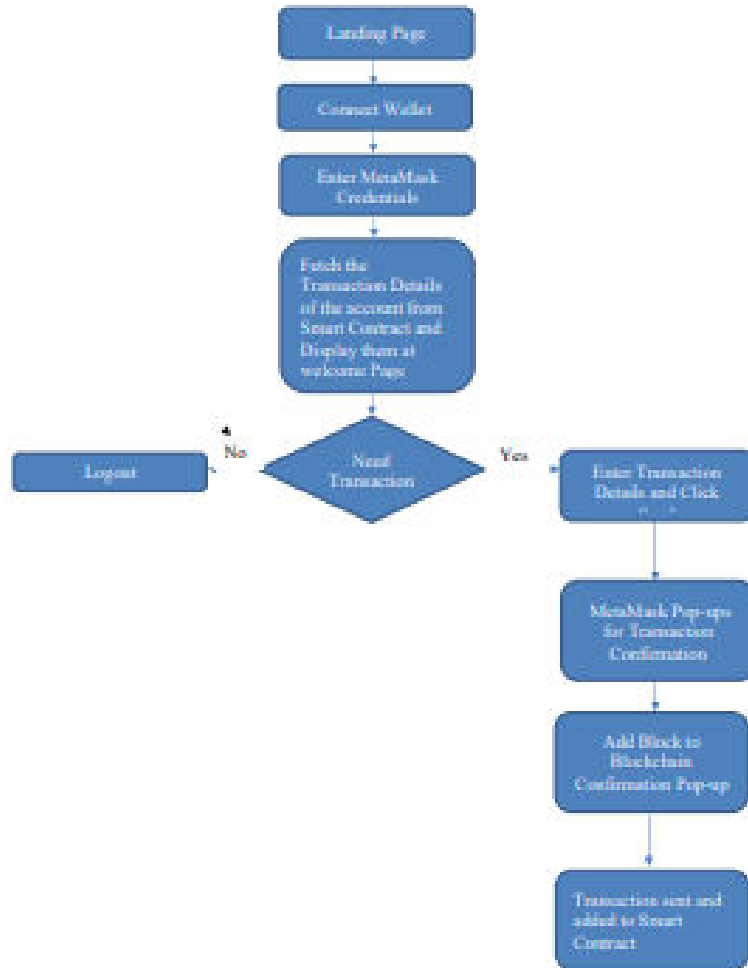
The urgency to establish a decentralized trust system is extensive and essential, as centuries of collaboration between distrustful parties have often relied on opaque systems vulnerable to corruption and power imbalance. One such example is the social contract between a government and its citizens, where a corrupted government can hold disproportionate power and prevent the system from returning to a fair state. Decentralized trust systems address these issues by enabling multiple parties to collaborate on specific tasks without requiring mutual trust. The development of blockchain technology, low-cost computing and storage, and ubiquitous Internet connectivity have facilitated the proliferation of decentralized trust systems. Unit-e is a highly-scalable and fully-decentralized payment system envisioned in this monograph. Decentralized payment systems possess several advantages, including diffused control, trusted commerce without centralized intermediaries, disruption of centralized intermediary rents, and global consistency and transparency on a shared ledger. Due to the sensitive nature of money, decentralization is required at multiple levels in such a payment system's design and development, algorithms governing the system, fees dissemination, and governance. The goal of Unit-e is to fulfill these decentralization constraints in a performant and robust manner. Although Bitcoin successfully achieved high levels of decentralization compared to centralized money supplies, architectural choices such as performance and scalability constraints hindered its utility as an everyday payment unit. Building a truly decentralized and efficient payment system is a core challenge, and currently, there is no candidate that can be used for the regular exchange of value in the daily lives of ordinary people despite the abundance of digital tokens available today.

II. PROPOSED ALGORITHM

- Connecting to the MetaMask through API.
- Login to MetaMask.
- Display the account info on **SIKKA** card.
- Enter the account address of the receiver.
- Enter the amount and some keyword to display the intent of the transaction.
- MetaMask sends the notification for permission.
- Second notification is about solidity Ethereum smart contract.
- Transaction history.



III. SYSTEM ARCHITECTURE



IV. CONCLUSION

Our decentralized conditional anonymous payment (DCAP) system achieves both anonymity and regulation properties. We began by creating a conditional anonymous payment (CAP) scheme, providing a formal semantic and security model, and designing CAP based on our signature of knowledge scheme, proving it secure in the defined security model. Using CAP as a foundation, we constructed our DCAP and demonstrated how it meets the relevant security requirements. Performance testing showed that our proposal is practical for real-world deployment, and we plan to collaborate with a real-world organization to customize and implement our proposal, identifying any necessary additional features or properties for future versions.

V. ACKNOWLEDGMENT

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