Supplier and Customer Verification System for Ethereum-Based DApp

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Introduction

This proposal outlines the development of a supplier and customer verification system within an existing Ethereum-based decentralized application (DApp) for supply chain management. This system aims to enhance transaction security and trust by verifying the identities and credibility of all participating entities.

Project Objectives

The primary objective is to develop a blockchain-based verification system that improves security and builds trust among users by ensuring all parties are verified. This includes:

- Creating a secure interface for document submission and status checks.
- Integrating a smart contract-based system for managing verification statuses.

Project Description

The verification system will use smart contracts on the Ethereum blockchain to store and manage verification statuses securely. The frontend, developed using React.js, will allow users to submit verification documents and check their status in real-time. This system will also encrypt sensitive information to ensure privacy and security.

Technology Stack

The project will utilize the following technologies:

- Blockchain Platform: Ethereum, Sepolia Testnet
- Frontend Development: React.js
- Blockchain Interaction: Web3.js

Implementation Plan

The project will be implemented in the following phases:

- Phase 1: Development of smart contracts for verification management.
- Phase 2: Building the frontend interface for user interactions.
- Phase 3: Integration of frontend with blockchain and deployment on Sepolia testnet.

Expected Outcomes

The verification system will significantly enhance the security and trust within the DApp by ensuring all participants are verified. This will prevent fraud and increase the reliability of transactions within the supply chain.

Conclusion

This enhancement to the existing DApp will demonstrate the potential of blockchain technology in improving security and trust in digital transactions, particularly in supply chain management.

References

Relevant methodologies and technologies are cited to support the development of the project, including Ethereum documentation and React.js frameworks.