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Decentralized Social Media with NFT Market Place

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Abstract - In today's era, social media has become an integral part of our everyday lives. It is not just a way of spending leisure time; it has also become a source of income for many people. The main drawback of such centralized systems is that we can never be sure about the privacy of the user data. Moreover, such a setup reduces the revenue of content creators due to the commissions involved. As a result, the monetization is heavily skewed in favor of the central authority. This project aims to create a decentralized social networking system that is free from the clutches of any organization. It will utilize the Blockchain network for higher security and transparency. It promotes user autonomy where users can self-manage the platform in a democratic way. Even the media content will be stored in a decentralized way on the Interplanetary File System (IPFS). Creators can also earn royalties on their work by minting it as NFT, which other users can bid on in a marketplace. An average-case product feasibility analysis based on historical data reveals that such a system can generate higher revenues for creators at no to low costs.

***Key Words*:** blockchain, evm, cryptocurrency, solidity, nft, social media.

1. INTRODUCTION

Social media has revolutionized how we connect and share information, offering a diverse range of platforms like Facebook, Twitter, and Instagram, each catering to different needs. While these platforms enhance connectivity and access to information, they also raise concerns like privacy and misinformation. In response, decentralized social media platforms have emerged, offering transparency and security. One such proposed platform combines traditional social media features with a unique NFT marketplace, empowering creators to monetize their content securely.

2. Objectives

- Enhance Transparency: Create a social media platform that operates transparently, providing users with visibility into data handling and content distribution processes.
- Empower Content Creators: Provide creators with the tools and infrastructure to monetize their content effectively, offering them opportunities for fair compensation and ownership rights through NFTs.
- Foster Decentralization: Promote decentralization by leveraging blockchain technology, allowing users to control their data and content without reliance on centralized authorities.

4. Technologies & Algorithms Used

The decentralized social media app with an NFT marketplace employs diverse algorithms and techniques to ensure security, scalability, and efficiency. These measures protect user data, prevent cyber threats, and enable smooth performance. Through innovation and robust infrastructure, the platform provides a secure environment for users to engage with content and participate in the NFT marketplace confidently.

4.1 DLT:

To start, the platform maintains a secure and decentralized database of user-generated content and NFTs using distributed ledger technology, such as blockchain. This makes it possible for users to have complete control their data and NFTs, eliminating the need for a central Right to monitor transactions. DLT stands for Distributed Ledger Technology. It is a decentralized system that allows multiple parties to have a copy of a shared ledger that records transactions or other data. Everyone Partners in the network have a copy of the ledger, and Each copy is updated in real time whenever a new copy arrives Transaction has been added.

4.2 Consensus Algorithm:

The platform uses a Proof of Stake (PoS) consensus algorithm to authenticate and validate transactions on a blockchain network. Based on the amount of cryptocurrency they "stake" or hold, validators, also known as stakers, are selected to create new blocks and validate transactions in a Proof-of-Stake (PoS) blockchain network. The probability of a validator being selected to create new blocks and collect transaction fees increases with the size of their stake.

4.3 Cryptography:

Cryptography is the art and science of securing communication against unauthorized access, commonly known as adversaries. It encompasses methods for encoding and decoding information to maintain its confidentiality, integrity, and authenticity. The fundamental objectives of cryptography include ensuring confidentiality, integrity, and authentication of data.

4.4 Web3 Auth:

Utilizing social accounts and devices that the majority of users already own, Web3Auth, non-custodial key infrastructure solution for web3 apps and wallets hopes to address these issues and make it possible for users to manage their keys easily. Our application will make use of Web3 Auth to provide a quick and secure authentication process.

4.5 Smart Contracts:

Smart contracts are simply blockchain-based programs that execute when certain criteria are met. They are typically used to automate the execution of an agreement so that all parties can be sure of the outcome immediately without the need for any intermediaries or additional time. This platform uses smart contracts to enable the minting, buying, and selling of NFTs in the marketplace. This ensures that all transactions are executed automatically and securely without the need for intermediaries or middlemen.

5. Architecture / Framework

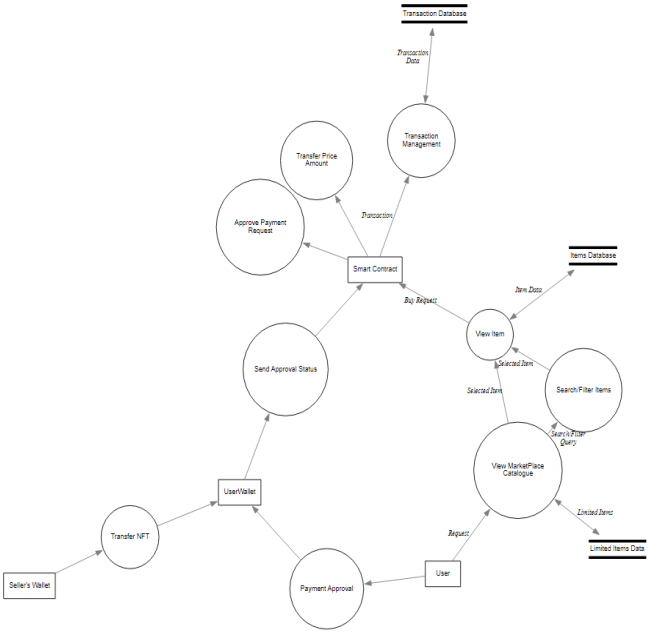

Fig: 1 - Data Flow Diagram

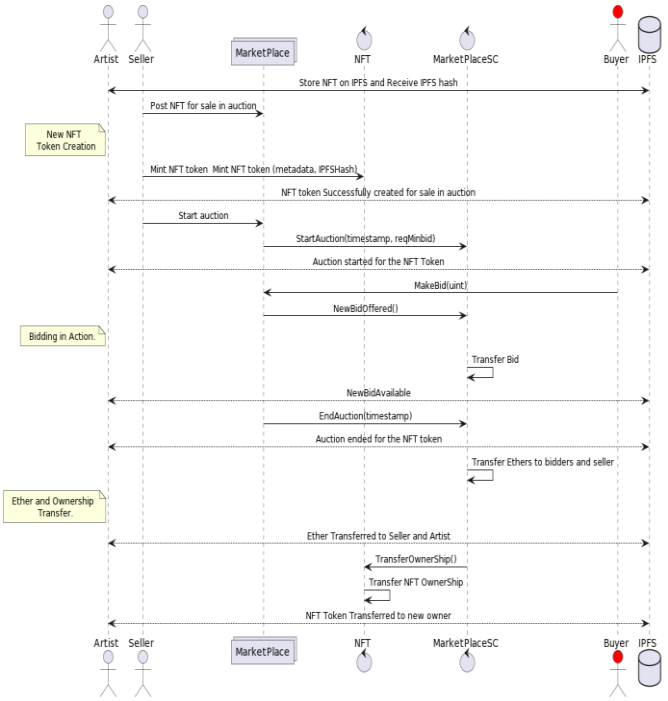

Fig: 2 - Sequence Diagram

6. CONCLUSION

In Conclusion, decentralized social media platforms and NFT marketplaces have gained popularity in recent years due to the growing concerns over privacy and security on traditional social media platforms. The integration of NFT marketplaces with social media platforms provides creators with a new revenue stream and the ability to monetize their content. The proposed decentralized social media application with an integrated NFT marketplace provides a new approach to social media that is more transparent, secure, and monetizability for creators. The platform's architecture is decentralized, which ensures users' control over their data and content.

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