A Blockchain based Autonomous Decentralized Online Social Network

ABSTRACT

Online social networks (OSN) are becoming more important in people’s daily life, however, all popular OSNs are centralized, and this raises a series of security, privacy and management issues. A decentralized architecture based on blockchain technology provides the ability to solve above issues. In this paper, an OSN service is developed based on blockchain technology in order to make it operate decentralized. Large volume of data normally required low-security requirements can be stored in Interplanetary Filesystem (IPFS) to make data decentralized. A decentralized autonomous organization is developed for user autonomy, users can self-manage the OSN in a democratic way.

**EXISTING SYSTEM**

Blockchain has made an impact on today’s technology by revolutionizing the financial industry through utilization of cryptocurrencies using decentralized control. This has been followed by extending Blockchain to span several other industries and applications for its capabilities in verification. With the current trend of pursuing the decentralized Internet, many methods have been proposed to achieve decentralization considering different aspects of the current Internet model ranging from infrastructure and protocols to services and applications.

An existing system investigates Blockchain’s capacities to provide a robust and secure decentralized model for Internet. The paper conducts a critical review on recent Blockchain-based methods capable for the decentralization of the future Internet. We identify and investigate two research aspects of Blockchain that provides high impact in realizing the decentralized Internet with respect to current Internet and Blockchain challenges while keeping various design in considerations. The first aspect is the consensus algorithms that are vital components for decentralization of the Blockchain.

The system identifies three key consensus algorithms including PoP, Paxos, and PoAH that are more adequate for reaching consensus for such tremendous scale Blockchain-enabled architecture for Internet. The second aspect that we investigated is the compliance of Blockchain with various emerging Internet technologies and the impact of Blockchain on those technologies. Such emerging Internet technologies in combinations with Blockchain would help to overcome Blockchain’s established flaws in a way to be more optimized, efficient and applicable for Internet decentralization.

**Disadvantages**

* The system is less secured since all low-security requirement big volume data are stored in IPFS. When a file is stored in IPFS, the related address named CID is returned to block chain in order to get the file in IPFS when it is needed.
* The workflow of publishing comments is similar to publishing tweets. But users need to indicate the hash ID of the tweet that they want to comment on when they send a transaction for commenting.

Proposed System

In the proposed system, the system proposed an autonomous decentralized online social network architecture based on block chain technology. Block chain is able to provide a safe and trusted peer-to-peer mechanism where participants have unique identities and private keys. The private key has the highest control right of the corresponding account and is stored in user’s own device.

Moreover, all transactions in block chain need to be signed by the private key, so cheating can be avoided. In order to give the system abilities of self management and sustainable development, a decentralized autonomous mechanism powered by block chain is embedded in the architecture.

The rest of the system is organized as follows. Firstly, we introduce the background of related technologies used in this architecture. Secondly, a detail description of the architecture is discussed. Thirdly, functions of this project are showed. Finally, a conclusion is made.

**Advantages**

* The system proposes Decentralized Autonomous Organization (DAO) which is more secure and efficient.
* The system designs a most DAOs operate rely on block chain and smart contracts, the code about a DAO plays like law, every operation must be expressed as a set of executable code, run on the block chain platform, to ensure the operation can be executed without any hindrance.

**SYSTEM REQUIREMENTS**

➢ **H/W System Configuration:-**

➢ Processor - Pentium –IV

➢ RAM - 4 GB (min)

➢ Hard Disk - 20 GB

➢ Key Board - Standard Windows Keyboard

➢ Mouse - Two or Three Button Mouse

➢ Monitor - SVGA

**Software Requirements:**

* Operating System - Windows XP
* Coding Language - Java/J2EE(JSP,Servlet)
* Front End - J2EE
* Back End - MySQL