Other Use-Cases of Blockchain

Blockchain in IoT

Why IoT Need Blockchain?

- IoT is a mechanism or interconnection between ordinary computing devices and objects that allows them to receive and transmit data over the internet.
- IoT devices suffer from shortcomings such as lack of compliance, security holes, vulnerability to hacks and DDoS attacks, etc.
- Using Blockchain to process and store data for IoT devices can provide the devices with security, interoperability, and scalability.
- A blockchain-based IoT infrastructure can allow a secure and consistent system with data, fault-tolerant and easily integrated in other systems.

How can Blockchain Help IoT?

- With the help of Blockchain, IoT can get the true form of trustless connectivity between devices and users.
- IoT devices are vulnerable to hacks and leaks; they require additional security mechanisms using Blockchain, which can manage this while reducing the additional cost associated with security.
- Streamline Processes Blockchain in IoT can streamline the entire process without involving third-party intermediaries. Moreover, Blockchain smart contracts can provide functionalities to automate smart devices.
- Blockchain can improve transaction processing and coordination between connected devices.
- The distributed ledger technology provides a solution to the process of a high number of transactions as the number of networked devices grows.

Applications of IoT and Blockchain

- Blockchain in Agriculture can completely transform the food processing market, from farm to grocery store to home.
- Utilizing IoT sensors in the farming area and sending data directly to Blockchain can bring transparency and security and transform the food supply chain overall.
- IoT data stored in Blockchain enables all parties involved to see component provenance throughout a product's life cycle.
- Using Blockchain in the medical sector allows transparency and traceability, along with the embedded IoT sensors, which can help monitor and trace the material movement from origin to the supply chain destination.

Conceptual Architecture of IoT Blockchain Platform

- Conceptual Architecture of the IoT Blockchain Platform includes IoT devices, user devices, data storage, local bridges, and servers connected via a peer-to-peer network blockchain.
- IoT Server is a device that can communicate or interact with local bridges and the blockchain network to send requests and collect data from the devices.
- Data Storage Environmental data obtained by sensors, physical device profiles, and owner profiles can be stored securely over blockchain using oracles.
- End User Client: To read and publish data to the blockchain network, the client can use terminal devices like smartphones or laptops.
- Communication Protocols to connect between different devices and the network communication which include protocols like Bluetooth®, WiFi, 2G-3G-4G cellular, and others.

Current Blockchain IoT Players

- Chain of Things (CoT) is a company working to provide solutions for IoT devices. The company has a big stake in the development of Maru, a blockchain and IoT hardware solution that addresses issues such as identity, security, and interoperability.
- IOTA is a potential blockchain architecture for IoT devices. IOTA uses a Tangle ledger, the distributed ledger with characteristics such as machine-to-machine communication and free fee micropayments.
- Riddle&Code has created a patented hardware and software architecture that enables secure and reliable machine interaction in the network by providing machines and any physical device with a verified digital identity.
- Modum.io integrates IoT sensors and blockchain technology to provide supply chain solutions. The modum uses sensors to record conditions. The sensor data is validated in a smart contract. The contract verifies that the conditions fulfill all of the requirements set forth by the users.

Blockchain Council

THANK YOU!

Any Questions?

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