Seamlessly integrating Internet of Things with blockchain

How Deqode created a platform that stored the required IoT data to a private blockchain, which was used to share the protected data among corresponding stakeholders involved.

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Challenge

Client issues and requirements

➔ Solving the identification problem of IoT devices and reducing vulnerability

➔ Creation of a digital identity of the IOT device which cannot be manipulated

➔ Implement a system which will increase the level of trust among different stakeholders, IoT devices, systems involved

➔ Need of robust solution for handling limited scalability, low verification speed and the transaction fee incurred

Framework

Hyperledger Fabric

Deqode's Solution Overview

How we helped the client realize his goals

➔ Created a Platform that stored the required IoT data to a private blockchain, which was used to share the protected data among corresponding stakeholders involved

➔ The Platform enables manufacturers to register and verify physical items in an irrefutable and decentralized network

➔ Designed service-oriented manufacturing model in which service consumers can configure, select, and utilize configurable manufacturing resources

➔ Deployed smart contracts which handles interaction with IOT devices and facilitates storage of data collected by these IOT devices and sensors on DLT, providing a clean and secure way to interact with blockchain powered DLT. Smart contracts also ensures structural integrity of the data being stored .i.e. Data emitted or collected by sensors is stored in uniform structure or format in blockchain

Tech Stack

Languages/ Runtimes/ Frame works:
Node.js, React.js

DevOps, DB, and Other Utilities:
Docker,Kubernetes, PSQL, Redis, Kafka, Zookeeper, HAProxy, GitLab

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