

Research papers on project risk

For our Smart Lock, how to encourage people to buy our product is the first problem we will meet. This also relate to the research that why we need to implement Blockchain into the IOT system.

1) Less expensive than the Smart Locks in the market.

Because of the high infrastructure and maintenance costs associated with centralized clouds and large server farms, in addition to the service costs of middlemen. I think we can use blockchain to reduce the cost of middlemen to lower the price to encourage more people participate.

Interfaces with non-blockchain functionality

2) The internet after trust

In the post-Snowden era, it is evident that trust in the Internet is over. Most solutions today provide the ability for centralized authorities whether governments, manufacturers or service providers to gain unauthorized access to and control devices by collecting and analyzing user data^[1]. So for IOT, trust is one important problem, but because of the block chain's decentralized and anonymity feature, we give users control of their own privacy.

We still have many problems like:

Mining is particularly computationally intensive, while the majority of IoT devices are resource restricted.

Mining of blocks is time consuming while in most IoT applications low latency is desirable.

BC scales poorly as the number of nodes in the network increases. IoT networks are expected to contain a large number of nodes.

The underlying BC protocols create significant overhead traffic, which may be undesirable for certain bandwidth-limited IoT devices.

IOT - today still we use some

Challenge four: A lack of functional value

The problems I listed were solved in two articles^{[2][3]}.

Reference:

[1] Brody, P., & Pureswaran, V. (2014). Device democracy: Saving the future of the internet of things. *IBM, September*.

[2] Hdac Technical Whitepaper <https://github.com/Hdactech/Hdac/wiki/Hdac-Technical-Whitepaper>

[3] Dorri, A., Kanhere, S. S., & Jurdak, R. (2016). Blockchain in internet of things: challenges and solutions. *arXiv preprint arXiv:1608.05187*.