Securing IoT Devices Using Blockchain Technology: A Review

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Abstract. Currently most IoT devices use centralized models and here we suggest highly independent and decentralized peer to peer business model. In blockchain it can store records, fact can be verified by anyone, and security can be guaranteed the no one can deliberate the system by editing records because everyone in system watching. Blockchain store information cross the network of personal computers making them not just the decentralized but distributed. In here we use second generation blockchains has been development of, what are called smart contracts, smart contracts are a computer code that is stored inside of the blockchain which encode contractual agreements. Smart contract is self-executing with the terms of agreement or operation directly written code stored and executed on the blockchain devices and the main contribution of this research review document paper is to suggest public blockchain based architecture for IoT that delivers lightweight and decentralized security and privacy. The architecture retains the benefits of blockchain while overcoming the aforementioned challenges in integrating blockchain. A cloud-enabled IoT framework possess a few significant disadvantages, such as high cloud server maintenance costs, weakness for supporting time-critical IoT applications, security, and trust issues. Therefore, it is essential to solve these problems associated with the cloud enabled IoT frameworks and to develop new methods for IoT decentralization. Recently, blockchain is perceived as a promising technique to solve the aforementioned problems and to design new decentralization frameworks. Ethereum is a blockchain based decentralized network primarily used for securely conducting and verifying (settling) transactions according to a given smart contract. This research mainly focusses on building a platform for IoT devices using Ethereum smart contracts, which is trustworthy and secure enough to prevent cyber-attacks such as DDoS.

Keywords: Blockchain, IOT, Device Security, cloud enabled IoT.