

A STUDY OF BLOCKCHAIN APPLICATION FOR DECENTRALIZED IOT DEVICE OWNERSHIP

Gulista Khan*

*Associate Professor,

Department of Computer Science, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA

Email id: gulista.engineering@gmail.com

DOI: 10.5958/2249-7137.2021.02627.6

ABSTRACT

Blockchain is a decentralized, publicly accessible ledger that records all transactions, both financial and non-financial. The Internet of Things (IoT) is also thought to be the next big thing. The techniques for peer-to-peer identification of ownership of IoT devices in a cloud context are discussed in this paper. The review paper goes over how a device is installed by its maker (also known as Genesis) and then transmitted to a user via blockchain technology. This paper also looks at how a similar blockchain method may be used to transfer device ownership from one user to another without the need for a third party. Because it depends on the strength of consensus of good nodes to operate effectively, the methods discussed in this paper are reasonably safe against all types of malicious attacks. Blockchain offers a fantastic alternative to modern-day authentication and device interaction.

KEYWORDS: *Blockchain, Decentralized, Device, IoT, Transactions.*

REFERENCES

1. V. Gatteschi, F. Lamberti, C. Demartini, C. Pranteda, and V. Santamaria, "To Blockchain or Not to Blockchain: That Is the Question," IT Prof., 2018, doi: 10.1109/MITP.2018.021921652.
 2. A. Urquhart, "The inefficiency of Bitcoin," Econ. Lett., 2016, doi: 10.1016/j.econlet.2016.09.019.
 3. Martin Garriga, M. Arias, Alan De Rensis, R. Li, and Y. Wu, "Blockchain based Academic Certificate Authentication System Overview," Proc. Sample Conf., 2018.
 4. H. Covington and Y. B. Choi, "Blockchain and Bitcoin," Int. J. Cyber Res. Educ., 2018, doi: 10.4018/ijcre.2019010103.
 5. T. A. Sundara, I. Gaputra, and S. Aulia, "Study on blockchain visualization," Int. J. Informatics Vis., 2017, doi: 10.30630/joiv.1.3.23.
 6. N. Shi, "A new proof-of-work mechanism for bitcoin," Financ. Innov., 2016, doi: 10.1186/s40854-016-0045-6.
 7. A. Dorri, S. S. Kanhere, R. Jurdak, and P. Gauravaram, "Blockchain for IoT security and privacy: The case study of a smart home," 2017, doi: 10.1109/PERCOMW.2017.7917634.
-

8. B. Cresitello-dittmar, "Application of the Blockchain For Authentication and Verification of Identity," *Int. J. Adv. Sci. Eng. Inf. Technol.*, 2016.
9. T. M. Fernández-Caramés and P. Fraga-Lamas, "A Review on the Use of Blockchain for the Internet of Things," *IEEE Access*. 2018, doi: 10.1109/ACCESS.2018.2842685.
10. J. Barclay, V. Kansara, E. Eswar, K. Elleithy, and L. Almazaydeh, "Efficient Approaches to Ensure Certificate Authenticity for Public Key Infrastructure," *Inf. Technol. J.*, 2017, doi: 10.3923/itj.2017.79.84.