Identification of Counterfeit/Fake Products using Blockchain

Anirudha P[1], Darshan V[1], Dr. Nirmala H[2]

Students, Department of Information Science and Engineering[1]

Assistant Professor, Department of Information Science and Engineering[2]

Global Academy of Technology, Bengaluru, India

Abstract: *Due to a lack of transparency, supply chain management regularly experienced problems such service redundancy, insufficient departmental coordination, and a lack of standardization .These days, product counterfeiting is a highly common occurrence, and it is nearly impossible to identify a counterfeit goods by its appearance alone. For reputable businesses, counterfeiters pose serious problems, yet the full impact of counterfeit goods on brands is too often unknown. Several strategies have been developed in the past to deal with the issue of product counterfeiting.The most widely used techniques include the use of QR code-based systems, artificial intelligence, and RFID tags. However, there were a few drawbacks to each of them artificial intelligence employs CNN and machine learning, which require a lot of processing power a QR code can be duplicated from a real product and placed on a false one, and so on.*

The goal of this research is to enhance the identification of counterfeit goods by tracing their supply chain's past. Blockchain technology, which guarantees the identification and traceability of genuine products across the supply chain, makes this possible. With a blockchain-based system, several parties can access everything simultaneously and it becomes decentralized. One of its key benefits is that the recorded data is very safe and protected from any vulnerabilities because it is hard to alter without the agreement of all parties involved. This study describes a system for detecting counterfeit goods that uses blockchain technology.

Keywords: Counterfeit Products, Blockchain, Supply Chain Management, QR Code, Smart Contracts, Ethereum, Product Integrity, Authentication, Decentralized, Tamper-Resistance

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