ABSTRACT

Counterfeit products pose a significant threat in today's global marketplace, endangering consumer safety and brand reputation while undermining economic stability. This project presents an innovative approach using QR (Quick Response) codes for product authentication, devoid of reliance on RFID (Radio Frequency Identification) technology. By harnessing block chain's decentralized and immutable ledger, the system establishes a secure platform to record product information and transactional data. QR codes serve as accessible gateways for consumers to swiftly verify product authenticity and retrieve comprehensive details regarding its origin and journey. Through meticulous requirement analysis, design, and implementation, the system is developed and rigorously tested to assess its efficacy in combating counterfeit products. Results of testing demonstrate the system's ability to deliver transparent and reliable product authentication, empowering consumers to make informed purchasing decisions with confidence. This project contributes to advancing anti-counterfeiting measures and underscores the potential of QR code- based authentication solutions in fortifying supply chains against counterfeit goods.

Keywords:- Product authentication- QR codes- Blockchain technology- Counterfeit products- Supply chain- RFID technology- Decentralized ledger- Consumer confidence- Anti-counterfeiting measures- Transparency