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Fake Product Detection through QR Code using Blockchain

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Abstract: *Fake products are becoming more common in our everyday life, especially in areas like medicines, electronics, and branded goods. This creates serious risks for both buyers and companies. Traditional ways of checking if a product is real are not always reliable, as they can be easily copied or changed. To solve this issue, the project suggests using blockchain technology along with QR codes. Each genuine product will have a unique QR code that links to information safely stored on the blockchain. When someone scans the code with their phone, they can instantly check if the product is real. The data on blockchain cannot be changed, which makes it very secure. It also removes the need for any middleman to confirm the product's details. Companies can update product data at any time, so everything stays clear and up to date. This system makes it easy for regular people to check authenticity in just a few seconds. It also helps companies protect their brand and earn customer trust. Overall, it makes the whole supply chain safer and more honest.*

Keywords: Counterfeit products, Product authentication, Blockchain technology, QR code verification, Supply chain security, Immutability, Decentralization, Consumer trust

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