Review of: "A Proposed Secure Wearable Device Payment System Based on Blockchain Technology"

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Potential competing interests: No potential competing interests to declare.

The article, *A Proposed Secure Wearable Device Payment System Based on Blockchain Technology*, presents a notable exploration of integrating blockchain with wearable devices for secure payments. However, there are areas that could be improved for better clarity and impact.

Structure and Focus:

While the paper introduces the topic effectively, it could benefit from a more streamlined structure. For instance, the introduction presents various technologies (blockchain, IoT, FinTech) in a somewhat disjointed manner. Instead, the paper should focus on explaining the relevance of blockchain in the context of wearable payments more cohesively. The use of Industry 4.0 technologies, such as AI and big data analytics, although mentioned, seems tangential to the core theme of secure payments using blockchain technology. By narrowing the scope, the paper could maintain a stronger focus.

Literature Review:

The literature review is comprehensive but could be more critical. It includes relevant studies but lacks depth in comparing and contrasting them, which could highlight the gaps this research is addressing. For instance, the section could better emphasize how the proposed blockchain solution specifically enhances security over existing systems and what deficiencies in previous wearable payment systems it aims to overcome.

Technical Depth:

The technical explanation of blockchain, IoT, and elliptic curve cryptography (ECC) is generally sound, but certain key details require further elaboration. For instance, the description of the “elliptic curve integrated encryption system (ECIES)” is adequate, but the discussion about the practical challenges—such as the management of encryption keys—should be expanded, especially in the context of real-world implementation on wearable devices. Further clarification on how blockchain addresses scalability issues in wearable payments would strengthen the argument.

Diagrams and Figures:

The paper would greatly benefit from more detailed diagrams or illustrations, particularly regarding the architecture of the

proposed system. For example, Figure 2 briefly outlines the proposed wearable device architecture, but it lacks the granular detail that would allow readers to understand how blockchain and ECC work together within this system. A more detailed breakdown would be beneficial for both technical and non-technical readers.

Conclusion and Future Work:

The conclusion makes a valid point by suggesting further research on developing a prototype, but it could be more specific. It would be helpful if the authors outlined potential metrics for assessing the system's scalability and security performance or suggested more concrete steps for real-world implementation. Also, the paper should propose areas of future research beyond just testing the system, such as exploring interoperability between different blockchain networks or wearable platforms.