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Preserving Transparency and Integrity of Elections Utilising Blockchain Technology

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Abstract

Digital voting is increasingly important in both established and emerging democracies. Some of the

advantages of digital voting are faster vote count and tabulation; accurate results; increased voters' participation and convenience; and effective handling of complex electoral system formats that require laborious counting procedures. However, transparency, credibility, and integrity concerns, as well as the limited possibility of recount, usually make traditional digital voting systems unpopular. Digital voting using blockchain technology, however, is safe, transparent, and immutable, which makes it a suitable choice for future decentralized voting systems. In particular, the Ethereum blockchain is proposed as an appropriate platform for the backbone of an e-voting system due to its widespread use, transparency, consistency and provision of smart contracts. Initial piloting on the implementation of a blockchain-based voting framework in Jordan shows promising results on its transparency and integrity by incorporating a space for representatives and observers to monitor the election procedure and results as an additional measure to ensure its efficiency and reliability. The uptake of the proposed system calls for further debate and dialogue amongst governments and people, especially in developing countries where democracy is still in its infancy.

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