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Blockchain-Based E-Voting Models

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Abstract: *Elections are crucial in democracies today, but most people across the globe lack confidence in their electoral systems. This is a critical problem for democracy. Even in the best democracies such as India, America, and Japan, election processes still have serious issues. Vote rigging, EVM hacking, election fraud, and booth capturing are serious issues in holding free and fair elections.*

This research examines issues with existing election systems and presents a blockchain-based e-voting model as a potential solution. The suggested system evaluates various blockchain platforms offering Blockchain-as-a-Service (BaaS) and examines their effectiveness in providing a secure, decentralized, and transparent e-voting system. This method will surpass the drawbacks of existing voting systems and will ensure the anonymity of the voter and the openness and verifiability of the results to the public.

An electronically compliant voting system has been an area of challenge for long. Distributed Ledger Technology (DLT) is a paradigm shift in the information technology industry with secure, tamper-proof, and decentralized solutions in multiple areas. Blockchain as a disruptive technology can enhance e-voting systems as more robust, secure, and efficient.

This paper presents a blockchain-based e-voting system that applies cryptographic security, transparency, and verifiability to provide a secure and tamper-free election process. The suggested model fulfills essential e-voting needs and provides end-to-end verifiability, making it a prime candidate to replace current voting systems. Comprehensive analysis of the framework proves its effectiveness in providing a secure, transparent, and reliable election process.

Keywords: Elections

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