

Deduplication Reduction in E-Voting system using Blockchain

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Abstract: *There have been several other voting methods since then. Paper ballots are the most widely used kind worldwide. Issues related with electronic voting methods have just become common in the last ten years. Electronic voting systems have issues primarily with security, reliability, trustworthiness, transparency, and functionality. The most advanced nation in this area is Estonia, a pioneer in the industry. There are, however, relatively few blockchain-based alternatives. All of those problems can be solved with blockchain, which also has certain benefits like immutability and decentralisation. Blockchain technologies for voting via electronic means have a number of issues, including a limited focus or a dearth of testing and benchmarking. This article introduces a blockchain-based electronic voting system that may be applied to any type of vote. It is totally driven by blockchain and capable of managing all procedures. The platform functions as entirely independent and decentralised once voting has begun, avoiding any potential problems with the voting process. The voter identities are protected by homomorphic encryption, but the data is completely visible. We examined and contrasted our solution across three distinct blockchains. According to the findings, there is minimal speed difference between using public and private blockchains. The main innovation of our system is the fully decentralised management of the electronic voting platform via blockchain, the transparency of the entire process, and simultaneously the protection and privacy of voters owing to homomorphic encryption.*

Keywords: Electronic voting, smart contracts, blockchain, ethereum, Hyperledger Composer, elections, homomorphic encryption.

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