ABSTRACT

DESIGN OF E-VOTING WEBSITE USING SMART CONTRACT ON BLOCKCHAIN POLYGON

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Electronic voting (e-voting) is one of the types of voting systems that the process runs with the electronic system. E-voting has been developed to be another alternative to traditional voting in democratic states. In Indonesia on the electoral system there are still some problems including the damage to the vote, the announcement not distributed, the counting of votes long enough due to geographical factors. The design of the e-voting website using the Polygon blockchain smart contract aims to complement the existing systems, notably security, transparency, voting counting and increase public confidence in the election process. The mechanism offered in this study is the use of smart contract voting which means the voting process runs on the blockchain network. Voters will receive a Non-Fungible Token after successful voting as proof of having voted. The research results of e-voting websites using smart contracts on blockchain polygons with blackbox testing show that the system can run well. Based on the experiment that has been conducted, the average transaction cost of each voter follows the voting series is 0.001036 MATIC.

Keywords: e-voting, smart contracts, blockchain, polygon