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Voting System using Blockchain Technology

Abstract

Blockchain technology has been presented as a support for trust needs between transactions in electronic in-formation systems. Its successful use in cryptocurrencies has allowed it to explore its capabilities in commercial, industrial, and service systems, backed by the operational alternatives offered by Ethereum Smart Contracts and the cryptographic security of public and private key. These keys are used as a way to make online transactions anonymously, with the guarantee offered by the Blockchain network that they are executed safely. With the above in mind, this concept can be extended to theelectoral processes, thus allowing its application in electronic voting systems, especially when the protocols currently used lack the trust factor between the different social actors. This document presents a proof of concept in which Blockchain and other technologies are applied, to allow interaction as an electronic voting system for the election of unique candidates. This has been achieved through the specification of an architecture designed especially for electoral processes, from which it is implemented and a simulation is carried out in order to obtain data that generates value, when evaluating Blockchain technology as an alternative to current voting systems.

Keywords : Blockchain, Cryptography, Electronic Voting, Proof of Concept, Smart Contracts

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