Decentralized Democracy : Empowering Small-Scale Communities with Blockchain Voting System

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Abstract: *Increasingly digital technology in the present helped many people lives. Unlike the electoral system, there are many conventional uses of paper in its implementation. The aspect of security and transparency is a threat from still widespread election with the conventional system (offline). General elections still use a centralized system, there is one organization that manages it. Some of the problems that can occur in traditional electoral systems is with an organization that has full control over the database and system, it is possible to tamper with the database of considerable opportunities. Structuring an electronic voting system which fulfills the legitimate requirements of representatives has been a challenge for a long time. Conducting the free, systematic and impartial election is the vital goal of every democracy nation. Every country follows a different voting system from old paper ballot system to Electronic voting system. There facing a many problem in these voting systems. The main problem is location and the accessibility, people are suffering to go to their native place polling booth for casting their vote. This needs to be considered as every people s vote plays significant role in deciding the right leaders. Blockchain technology offers the transparency and security requisites for the impartial election. It is a complete decentralized, immutable ledger system. The online voting system allows the voters to cast their vote from any place at any time which leads to increasing the voter participation count. The objective of is to create a voting system which provides transparency and security using Blockchain technology, the Ganache tool is used for setting up a local blockchain network. The metamask is used for account verificationBlockchain technology is one of solutions, because it embraces a decentralized system and the entire database are owned by many users. Blockchain itself has been used in the Bitcoin system known as the decentralized Bank system. By adopting blockchain in the distribution of databases on e-voting systems can reduce one of the cheating sources of database manipulation. This research discusses the recording of voting result using blockchain algorithm from every place of election. Unlike Bitcoin with its Proof of Work, this thesis proposed a method based on a predetermined turn on the system for each node in the built of blockchain.*

Keywords: Blockchain, ethereum, smart contracts, e-voting, solidity

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