# CloudChain:
# Integrating Blockchain systems with MANET

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# 1.Abstract

The increasing demand for a secure, transparent and tamper-resistant voting systems has led to multiple research of technologies to effectively replace the traditional voting method. This project proposes a **decentralized e-voting system by integrating blockchain technology with MANET to provide a reliable and secure voting platform**. The system aims to create a transparency and immutability blockchain architecture to ensure vote integrity, while utilizing the flexibility of MANETs to create a infrastructure-less communication networks for voting system. The project will utilize Golang and MongoDB to create a permissioned blockchain model, to achieve data security and efficient voting. It aims to enhance the vote security, accessibility from rural areas and real-time consensus consistency in the blockchain network.

## 2.Introduction

The election process is undergoing a significant digital transformation, driven by the integration of advanced technologies such as cloud computing and blockchain. These innovations promise enhanced data security, transparency, and integrity, addressing long-standing challenges in election management. Blockchain technology, in particular, has emerged as a potential solution to ensure secure and tamper-proof voting records, facilitate seamless data sharing across election authorities, and improve voter trust. However, the integration of blockchain into election security is not without its challenges.

The sensitive and complex nature of election data, combined with the regulatory and operational requirements of the sector, poses significant hurdles to the adoption of blockchain solutions. Issues such as scalability, data privacy compliance, interoperability, and high implementation costs must be addressed to unlock the full potential of blockchain in elections. Furthermore, the technology's inherent characteristics, including decentralized control and immutability, may sometimes conflict with election systems' dynamic and regulatory-driven data management needs.

This paper aims to explore the key challenges associated with implementing blockchain technology within the election sector. It will examine the technological, regulatory, and operational barriers that hinder its adoption and propose potential solutions to overcome these issues, ultimately paving the way for more secure and transparent election processes.

Links:

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| GitHub Repository | https://github.com/DCYXboi/MAL3018-Computing-Project |
| Video | https://www.youtube.com/watch?v=j0BNjMnd2KM |
| Poster and thumbnail | https://www.canva.com/design/DAGh8wLtZhY/58UlQ8bvK3Z92SPWBRfpJA/edit?utm_content=DAGh8wLtZhY&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton |