COVID-19 WORRY-FREE ELECTRONIC VOTING: MALAYSIA FUTURE ELECTION USING BLOCKCHAIN BASED TECHNOLOGY

Patent
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Product Background

- Electronic voting using blockchain based technology is a secure and trusted system where the purpose is to achieve precise results in voting.
- It includes voter registration, vote casting and ballot counting in a system.
- Electronic voting using blockchain based technology was developed to ease voters to cast the vote by using smartphones or electronic devices from their remote locations. This technology helps in reducing human errors and shorten the time of ballots counting.
- It is also an emergency preparedness especially in holding elections during pandemic.

Novelty/ Originality/ Inventiveness

- Worry-Free Election during and Post COVID-19.
- This system of electronic voting is designed with a simple and user-friendly interface for voters to ease the casting process in the real time.
- Accountability, Integrity and Transparency Compliance Principle in the Systems.
- It includes the graph of voters' turnout to monitor their participation.

Benefits/Usefulness/Applicability

With the help of blockchain technology, this system protects anonymity and privacy of voters by keeping their identity. It is difficult to be hacked as the asymmetric cryptography is implemented to protect voting's authentication and confidentially. At the same time, electronic voting could increase voters' turnout and reduce the errors during ballots. The cost of paying staff to count the ballots can be reduced as the systems able to count the votes automatically in a short time.

Environmental Impact

- Electronic voting is paperless hence it can reduce the number of trees from cut down for ballot papers.
- Carbon footprint like carbon dioxide (CO^2) can be reduced to 500kg because there are no transports will be used to perform electronic vote.

Marketability & Commercialisation

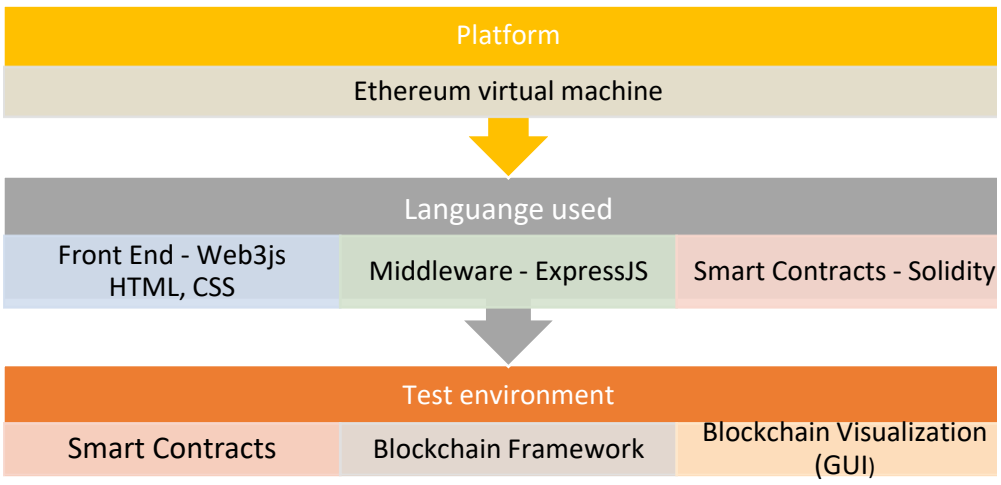
- This technology has a huge potential to compete with other electronic voting systems as it uses blockchain technology with high security.
- Election Commission of Malaysia (Suruhanjaya Pilihan Raya Malaysia)
- Malaysian Government.

Status of Innovation

Prototype (design)

Product Image and Product Characteristics/Results

State of the Art/ Methods



Cost Analysis

The prototype of electronic voting system design that includes basic features cost approximately RM 15,000. Maintenance cost also included as it involves how long the system is operating. This prototype will be operated for 6 months including the development process, systems testing, and systems launching where 100 voters will cast the vote.

Publication

The blockchain-enabled technology and carbon performance: Insights from early adopters. *Technology in Society*, Elsevier, 64, 101507, 2021 (**Scopus and WoS Impact Factor: 2.414**).

Collaboration/Industrial Partner

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