Electronic Voting Based On Virtual Id of Aadhar Using Blockchain Technology

Ms. Nikita B. Katore, Ms. Ashwini B. Yeole, Ms. Pallavi B. Rahane, Ms. Rachana V. Kolse, Prof. Dinesh Ghorpade

Department of IT Engineering
SVIT Nashik, Maharashtra, India

Abstract: **Progressively advanced innovation in the present aided many individuals lives. Not at all like the appointive framework, there are numerous regular employments of paper in its execution. The part of safety and straightforwardness is a danger from still boundless political decision with the traditional framework (disconnected). General decisions still utilize a unified framework, there is one association that oversees it. Some of the issues that can happen in conventional appointive frameworks is with an association that has full command over the data set and framework, it is feasible to mess with the data set of significant freedoms. Blockchain innovation is one of arrangements, since it accepts a decentralized framework and the whole data set are possessed by numerous clients. Blockchain itself has been utilized in the Bitcoin framework known as the decentralized Bank framework. By embracing blockchain in the dispersion of information bases on e-voting frameworks can lessen one of the conning wellsprings of information base control. This examination talks about the recording of casting a ballot result utilizing blockchain calculation from each spot of political race. Not at all like Bitcoin with its Proof of Work, this proposition proposed a strategy in light of a foreordained turn on the framework for every hub in the worked of blockchain.**

Keywords: **Blockchain, ethereum, savvy contracts, e-voting, robustness**

INTRODUCTION

E-voting is generally utilized in the public eye life. Be that as it may, it isn't clear how to guarantee the result is regarded when the choice is monetarily or politically related. The rightness, security and protection are dependably the most significant characters. Secure e-casting a ballot is a sort of secure multi-party calculation. In the democratic cycle, a bunch of individuals settle on their decisions and the decisions of them could be kept subtly. The greater part of the e-casting a ballot plans need a believed public release board to give a steady view to all electors. In any case, it is not obviously for political decision executive to show the public announcement board can be totally trusted. A few individuals acknowledge blockchain can be utilized as the announcement board on the grounds that the substance is openly trusted.E-voting is widely used in society life. But it is not obvious how to ensure the outcome is respected when the decision is financially or politically related. The correctness, security and privacy are always the most important characters. Secure e-voting is a kind of secure multi-party computation. In the voting process, a set of people make their choices and the choices of them could be kept secretly. Most of the e-voting schemes need a trusted public bulletin board to provide a consistent view to all voters. However, it is not clearly for election administrator to show the public bulletin board can be completely trusted. Some people realize blockchain can be used as the bulletin board because the content is publicly trusted.[1]

Yarmouk University (YU) is the second oldest university in Jordan and account for more than 30,000 students in 11 colleges and 53 departments. The university conducts a yearly election of students' council, where such event is considered the most important and might lead to critical disputes based on political and social issues. This study tried to explore how students will perceive electronic systems used in an election process and what factors will influence such process. The study utilized the technology acceptance model (TAM) with some extensions to it. Based on the literature e-voting refers to the use of computer or computerized voting equipment to cast ballot in an election, this term sometimes is used more specifically to refer to voting that takes place over the Internet (Storer and Duncan, 2004). This study consist of five sections, the first two introduced the concept and reviewed the literature related to e-voting. The third section proposed a model based on the adoption concept of technology. The forth section reviewed the research method, and laid down the results. Finally, the sixth section discussed the findings and concluded with implications and future work[2].

An electronic voting (e-voting) system is a voting system in which the election data is recorded, stored and processed primarily as digital information. It uses an electronic means of casting and counting votes. E- Voting systems have been in use since 1960 when the punched card system appeared and was used on seven different counties in US for the presidential election of 1964 and nowadays it had become a very practical way of voting. Electronic voting has many advantages over the traditional way of voting. Some of these advantages are lesser cost, faster tabulation of results, greater accuracy, and lower risk of human and mechanical errors. It offers improved accessibility for the people with disabilities, and it provides multiple-language support for the ballots [3].

MOTIVATION

This project aimed to implement a web-based application assist with Electronic voting technology intends to speed the counting of ballots, reduce the cost of paying staff to count votes manually and can provide improved accessibility for disabled voters. Also in the long term, expenses are expected to decrease. Results can be reported and published faster.

PROBLEM DEFINATION

To design and implement system using android and javascript or xml for e-voting online system. As information technology evolves over time, the need for a better, faster, more convenient and secure electronic voting is essential requirement. The security is one of the main concerns, such as authentication, confidentiality, integrity and non-repetition. It is not an easy task to achieve secure e-voting. Online Voting System provides the online registration form for the users before voting and makes the users to cast their vote online. The system is to be developed with high security and user friendly. Develop a general electronic voting protocol that provides privacy, transparency, integrity, with accuracy, verifiability, Mobility, with authentication mechanism, integrity, non-repetition mechanism and trusted electronic voting and in addition to the requirement for electronic voting.

LITERATURE SURVEY

PAPER 1
Blockchain Based E-Voting System
Author: Prof. Mrunal Pathak, Amor Suradkar, Ajinkya Kadam, Akansha
Ghodeswar, Prashant Parde
Findings:
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. Blockchain 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 block chain 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[1].

PAPER 2
E-VOTING SYSTEMS: A TOOL FOR E-DEMOCRACY
Author: Emad ABU-SHANAB, Michael KNIGHT and Heba REFAI
Findings:
Using electronic voting systems is divisive as some countries used such systems and others did not. Electronic voting (e-voting) is relatively a new concept based on its application that aims at reducing errors and improving the convenience and integrity of election process. This paper tried to explore the factors that influence the adoption of such systems in a university environment. The study utilized a sample of 302 bachelor degree students in a public Jordanian university and in relation to students' council election process. Results indicated that students were keen on the concepts of trust and usefulness of e-voting when adopting such systems. The study supported the findings of TAM in the area of technology acceptance. Conclusions are at the end of this paper[2].

PAPER 3
A secure e-Government's e-voting system
Author: Mohammad Hosam Sedky; Essam M. Ramzy Hamed
Findings:
This paper proposed a reliable cost effective secure electronic voting system that can be used in cost effectively way in many development countries like Egypt. The important obstacle in any e-voting system across the world is the security issue. Election's results may be modified when delivered to the Higher Elections Committee, unauthorized
voter may vote instead of the eligible voter, a vote may not be calculated; also the voter has to ensure that nobody has the possibility to know his ballot data.The proposed Voting Model System overcomes these obstacles. Security evaluation experiments are performed successfully to the proposed system proving that it satisfies privacy, accuracy, reusability, eligibility and integrity[3].

PAPER 4
E-Voting System Based on Blockchain Technology: A Survey
Author: Sarah Al-Maaitah; Mohammad Qatawneh; Abdullah Quzmar
Findings:
Democracy in any country must have a transparent voting system that meets the people's needs to give the power to the right person. Furthermore, the existing traditional voting systems suffer from major drawbacks and missing the lack of security and transparency. This survey paper discusses the possible opportunity for applying BC technology in e-voting systems to improve the process of voting by tackling the issues of trustless, privacy, and security. This paper aims to evaluate different applications of blockchain as a service to implement distributed electronic voting systems. Some of them have been only a draft paper; others are implemented in the real world. A blockchain-based e-voting application improves security, privacy, and decreases the cost, even more, which can be achieved[4].

PROPOSED SYSTEM

Using electronic voting systems is divisive as some countries used such systems and others did not. Electronic voting (e-voting) is relatively a new concept based on its application that aims at reducing errors and improving the convenience and integrity of election process. This paper tried to explore the factors that influence the adoption of such systems in a university environment. The study utilized a sample of 302 bachelor degree students in a public Jordanian university and in relation to students' council election process. Results indicated that students were keen on the concepts of trust and usefulness of e-voting when adopting such systems. The study supported the findings of TAM in the area of technology acceptance. Conclusions are at the end of this paper
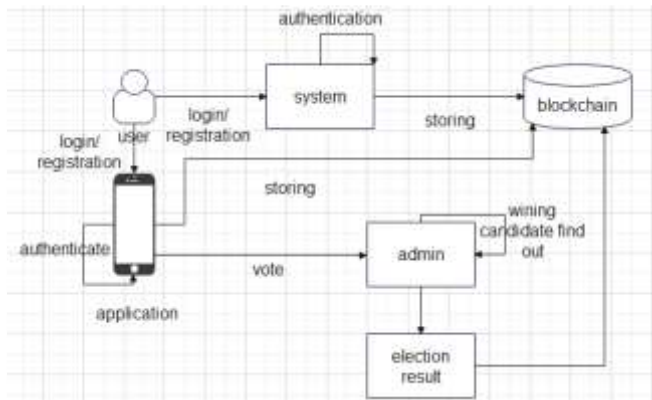
SYSTEM ARCHITECTURE

Fig -1: System Architecture Diagram

ADVANTAGES

- Easy to use
- Security
- High Performance

LIMITATIONS

- Internet Connection necessary
- Proper Dataset

APPLICATIONS

- Personal
- Research
- Government Information
- Provide better solution in Low Cost

CONCLUSION

Our blockchain based e-voting system it shows that blockchain technology can overcome limitations of centralized voting systems. This implementation uses blockchain as a network as well as database for storing voter's accounts, candidate details and votes. This implementation makes use of smart contracts. This implementation is tested on virtual client. In future it can be tested on blockchain test net with large number of accounts. In future work, the feasibility of blockchain based e-voting system for large-scale election should be analyzed.

FUTURE WORK:

E-Voting application is provide the security and authentication of candidate voting. Our system is voting of candidate is based on finger print. We are using our system to provide list of elections and no of candidates related to voting.

REFERENCES

[1] Blockchain Based E-Voting System, May 2021International Journal of Scientific Research in Science and Technology, Prof. Mrunal Pathak, Amol Suradkar,Ajinkya Kadam, Akansha Ghodeswar

[2] E-voting systems: A tool for e-democracy, January 2010Knowledge Management Research Practice 2(3):264-274, Emad Abu-Shanab, Michael B. Knight

[3] Science and Information Conference 2015 July 28-30, 2015 — London, UK 1365 —P a g e www.conference.thesai.org, A Secure e-Government's e-Voting System,Mohammad Hosam Sedky, Essam M. Ramzy Hamed

[4] E-Voting System Based on Blockchain Technology: A Survey, Sarah Al-Maaitah;
Mohammad Qatawneh; Abdullah Quzmar, 2021 International Conference on Information Technology (ICIT) IEEE 2021
[5] International Journal of Trend in Research and Development, Volume 2(5), ISSN 2394-9333 www.ijtrd.com IJTRD — Sep - Oct 2015 Available Online@www.ijtrd.com 438, Student Online Voting System, Raja Lakshmi, Meenakshi Nivya and K S Selvanayaki