Electronic Voting and Face Recognition using Blockchain Technology

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ABSTRACT
There stay challenges to attain wide unfold adoption of such systems particularly with relation to rising their resilience against potential faults. Distributed ledger technologies is associate degree exciting technological advancement within the info technology world. Blockchain technologies provide associate degree infinite vary of applications cashing in on sharing economies. This paper aims to judge the applying of blockchain as service to implement distributed electronic vote systems. The paper elicitates the wants of building electronic vote systems and identifies the legal and technological limitations of exploitation blockchain as a service for realizing such systems. The project starts by exploitation the popular blockchain frameworks that supply blockchain as a service. We tend to then propose a unique electronic legal system supported blockchain that addresses all limitations we tend to discovered. A lot of usually this paper evaluates the potential of distributed ledger technologies through the outline of a case study, specifically the method of associate degree election and implementing a blockchain-based application that improves the safety and reduces the price of hosting a nationwide election.

I. INTRODUCTION

The electronic balloting has emerged over time as a replacement to the paper-based balloting to scale back the redundancies and inconsistencies. Furthermore, it's significantly appropriate for the disabled folks. It's within the block-chain technology that is extremely a lot of secure. It's effective of the polling method, hashing algorithms' utility, block creation and waterproofing, knowledge accumulation, and result declaration by victimization the adjustable blockchain methodology. The thought of block creation and block waterproofing is introduced during this paper. The introduction of a block waterproofing thought helps in creating the blockchain adjustable to fulfill the necessity of the polling method. The utilization of pool blockchain is usually recommended, that ensures that the blockchain is in hand by an organization (e.g., election commission), and no unauthorized access is made of outside. The framework projected during this paper discusses the effectiveness of the polling method, hashing algorithm's utility, block creation and waterproofing, knowledge accumulation, and result declaration by victimization the adjustable blockchain methodology.

OBJECTIVES

To provide the secure electronic voting system with face recognition and also by implementing using the blockchain. The voting should not able hacked and should not be changed. At the same protecting the information about the voters. The privacy of the voters is very important for the fair election.

To develop a voting system which can also be use by disabled person. The aim to is the develop a solution that is very easy to use at the same time very sercure. To get rid of drawback of electronic voting machines have been viewed as flawed, by the security community, primarily based on physical security concerns. Anyone with physical access to such machine can sabotage the machine, thereby affecting all votes cast on the aforementioned machine.

II. LITERATURE REVIEW

To provide the secure electronic legal system with face recognition and additionally by implementing exploitation the blockchain. The option mustn't ready hacked and may not be modified. At constant protective the knowledge regarding the voters. The privacy of the voters is incredibly necessary for the truthful election. To develop a legal system which may even be use by disabled person. The aim to is that the develop an answer that's terribly straightforward to use at constant time terribly secure. to urge eliminate disadvantage of electronic option machines are viewed as imperfect, by the protection community, based totally on physical security issues. Anyone with physical access to such machine will sabotage the machine, thereby touching all votes stitch the aforesaid machine. The option tool has helped rising the trust of individuals over the choice they create by a vote of majority. This has actually helped in group action of the option method and therefore the price of legal system to elect the parliaments and governments and alternative election. Electronic option machines are viewed as imperfect, by the protection community, based totally on physical security issues. Anyone with physical access to such machine will sabotage the machine, thereby touching all votes stitch the aforesaid machine.

The blockchain technology was introduced in 2008 once Satoshi Nakamoto created the primary cryptocurrency known as Bitcoin. The Bitcoin blockchain technology uses a decentralized public ledger combined with POW(Proof-of-Work) primarily based stocastic concensus protocol, with monetary incentives to record a completely ordered sequence of blocks, the blockchain. The chain is replicated, cryptographically signed and in public verifyable at each dealings so no-one will tamper with the info that has been written onto the blockchain. The blockchain structure is associate append-only organisation, specified new blocks of knowledge is written thereto, however can not be altered or deleted The blocks ar enchained in such the simplest way that every block features a hash that's a perform of the previous block, providing the reassurance of changelessness.

The planned e-voting system is predicated on the well-established citizen e-voting approach known system. The system has been designed to support a option application within the universe setting taking into consideration specific needs like privacy, eligibility, convenience, receipt freeness and verifiability. The planned system aims to attain secure digital option while not compromising its usability. among this context, the system is intended employing a web-based interface to facilitate user engagement with measures like finger printing to shield against double option. With a transparent have to be compelled to administer the voters, constituencies and candidates for constituencies, a easy administrator interface is enforced to modify simple access. moreover, the system permits all voters equal rights of participation and develops a good and healthy competition among all the candidates whereas keeping the namelessness of the voters preserved. The cryptologic hash of the dealings (ID) of the citizen as a symptom that the vote has been casted which can anon be half-track outside the premises of the body.The option and face recognition primarily based exploitation Blockchain Technology. the downside is that it use less bioscience. This Electronic option primarily based Blockchain technology can offer the truthful election that is straightforward to use by all.

III. METHODOLOGY

HARDWARE REQUIREMENTS

- Processor : Dual core processor 2.6.0 GHZ
- RAM : 1GB
- Hard disk : 160 GB
- Compact Disk : 650 Mb
- Keyboard : Standard keyboard
- Monitor : 15 inch color monitor

SOFTWARE REQUIREMENTS

- Operating system: Linux/Windows
- Tool :NPM
- Framework: Bootstrap
- Database : MySQL

IV. SYSTEM ARCHITECTURE

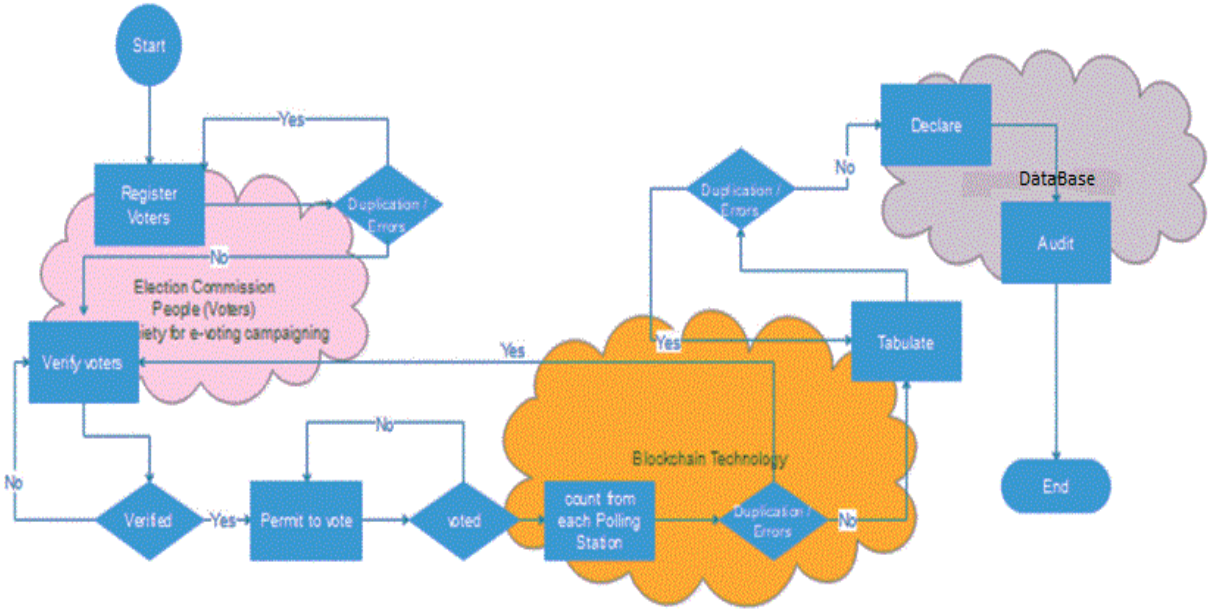

Figure 5.1: system Architecture

FRONT END:PYTHON

The side this project is made victimization the react.js. The front end of an internet site is that the half that users act with. Interaction can manifest itself within the chatbot within the kind of linguistic communication and this can be the main focus of style with reference to informal user interfaces (CUI). "Conversation as a way of interaction is usually mentioned because the new UI". permitting users to act with the chatbot victimization linguistic communication input and to coach the chatbot victimization acceptable ways therefore it'll be able to generate a response.
React.js may be a library for building composable user interfaces. It encourages the creation of reusable UI elements, that gift knowledge that changes over time. scores of folks use React because the V in MVC. React abstracts away the DOM from you, providing an easier programming model and higher performance. React also can render on the server victimization Node.

BACK END: MY SQL

Node.js is associate degree open supply, cross-platform runtime atmosphere for developing server-side and networking applications. Node.js applications area unit written in JavaScript, and may be run inside the Node.js runtime on OS X, Microsoft Windows, and Linux. Node.js additionally provides an expensive library of assorted JavaScript modules that simplifies the event of net applications' victimization Node.js to an excellent extent. Node.js is associate degree epitome of associate degree exceptionally customizable and scalable school. The server engine utilizes associate degree event-based, non-blocking I/O model. This makes the variation of JavaScript easier to the machine language providing execution of the code super quick. Due to JavaScript and Node.js, the code operates quicker in server-to-client direction. This enhances the performance ability of the online applications to future level. To be a lot of precise, net application development in Node.js ensures a gentle and secure non-blocking I/O model, simplifying the code. Node.js runs over Google's V8 JavaScript engine, wherever net applications' area unit event-based in associate degree asynchronous manner. Node.js platform uses a "single-threaded event loop.

V. SYSTEM IMPLEMENTATION

The implementation of the proposed system has been carried out within a controlled environment with a web-based application created to serve as the front end application enabling the users to interact in a convenient manner. This application is implemented via React.JS and Node.JS native Ubuntu server used for hosting the application. The application uses a MySQL as the backend database for the application and contains the data entered manually by an admin such as the voter details, constituency details and the information about different political parties running for the election. An application screenshot demonstrating the admin function to view list of eligible voters. In addition to manual entries, the application also supports importing data using phpmyadmin to perform bulk import in view of the size of the data in real-world voting scenarios. We have used Multichain as the blockchain platform to create a private blockchain for this application which is used for recording the voting transactions. This choice is influenced by the ease of use provided by this platform and therefore it was easily integrated into our proposed architecture.

VI. MODULE SPECIFICATION

FEATURES

- It quickly render the page
- It is very easy to use
- It can be integrated with website easily

ADVANTAGES

- The uses is able to get information quickly
- The user get response very fast
- It improve user experience.

VII. CONCLUSION

In this project, weprovide the secure electronic voting system with face recognition and also by implementing using the blockchain. The voting should not able hacked and should not be changed. At the same protecting the information about the

voters. The privacy of the voters is very important for the fair election. To develop a voting system which can also be use by disabled person. The aim to is the develop a solution that is very easy to use at the same time very sercure. To get rid of drawback of electronic voting machines have been viewed as flawed, by the security community, primarily based on physical security concerns. Anyone with physical access to such machine can sabotage the machine, thereby affecting all votes cast on the aforementioned machine.As we have finished this Electronic Voting and face recognition based using Blockchain Technology. The drawback is that it use less biometrics. This Electronic Voting based Blockchain technology will provide the fair election which is easy to use by every one.

REFERENCES

[1] Basit Shahzad; Jon Crowcroft (2019). “Trustworthy Electronic Voting Using Adjusted Blockchain Technology” IEEE Access (Volume: 7)

[2] Narayanan, Arvind; Bonneau, Joseph; Felten, Edward; Miller, Andrew; Goldfeder, Steven (2016). Bitcoin and cryptocurrency technologies: a comprehensive introduction. Princeton: Princeton University

[3] Yuan, Ben; Lin, Wendy; McDonnell, Colin. "Blockchains and electronic health records" (PDF). mcdonnell.mit.edu. Archived from the original (PDF) on 25 December 2016. Retrieved 27 June 2018.

[4] Prisco, Giulio (3 June 2016). "Microsoft Building Open Blockchain-Based Identity System With Blockstack, ConsenSys". Bitcoin Magazine. BTC Media LLC. Archived from the original on 31 January 2017

[5] T. Kunioka and G. M. Woller, ``In (a) democracy we trust: Social and economic determinants of support for democratic procedures in Central and Eastern Europe," J. Socio-Econ., vol. 28, no. 5, pp. 577596, 1999.

[6] T. van der Meer, ``In what we trust? A multi-level study into trust in parliament as an evaluation of state characteristics," Int. Rev. Administ. Sci., vol. 76, no. 3, pp. 517536, 2010.

[7] D. Basin, H. Gersbach, A. Mamageishvili, L. Schmid, and O. Tejada, ``Election security and economics: It's all about eve," in Proc. Int. Joint Conf. Electron. Voting, 2017, pp. 128.

[8] P. Bevelander and R. Pendakur, ``Electoral participation as a measure of social inclusion for natives, immigrants and descendants in Sweden," Tech. Rep., 2008, p. 33.

[9] S. Wolchok et al., ``Security analysis of India's electronic voting machines," in Proc. 17th ACM Conf. Comput. Commun. Secur., 2010, pp. 114.

[10] R. L. Rivest, ``The threeballot voting system," Tech. Rep., 2006, p. 15.