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Online E-Voting Smart System

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Abstract: ***India is the world's biggest vote based system with a populace of more than 10 million; Casting a ballot is the extension between the represented and government. The most recent couple of years have welcomed a re-established center around to the innovation utilized in the democratic cycle. The current democratic framework has numerous security openings, and it is hard to demonstrate even basic security properties about them. A democratic framework that can be demonstrated right has numerous worries. There are a few explanations behind an administration to utilize electronic frameworks are to expand decisions exercises and to lessen the races costs. Still there is some extent of work in electronic democratic framework in light of the fact that it is extremely unlikely of distinguishing proof by the electronic democratic framework if the user is credible and getting electronic democratic machine from reprobates. The proposed framework is to build up a viable democratic machine with high security by utilizing Block-chain innovation to expand security and straight forwardness between the users.***
Keywords: Block chain, Data Security, Voting System, Voter ID, Vote.

I. INTRODUCTION

Voting, whether traditional ballet based or electronic voting (e-voting), is what modern democracies are built upon . In recent years' voter apathy has been increasing, especially among the younger computer/tech savvy generation. E-voting is pushed as a potential solution to attract young voters. For a robust e-voting scheme, a number of functional and security requirements are specified including transparency, accuracy, auditability, system and data integrity, secrecy/privacy, availability, and distribution of authority. Block-chain technology is supported by a distributed network consisting of a large number of interconnected nodes. Each of these nodes have their own copy of the distributed ledger that contains the full history of all transactions the network has processed. There is no single authority that controls the network . If the majority of the nodes agree, they accept a transaction. This network allows users to remain anonymous. A basic analysis of the block-chain technology suggests that it is a suitable basis for e-voting and moreover, it could have the potential to make e-voting more acceptable and reliable.

II. RELATED WORK

This paper , proposed secure voting system with fast voting results through RFID based biometric voting system. In this paper, there are two verification steps involved. First, RFID tag is used which contains the verification data which is already stored in LPC 2148. Second, the Fingerprint scanner is used to check whether the RFID is belonging that particular person or not. The drawback of this paper is cost maximized due to use of RFID method.

The proposed method is to build a Smart voting system using fingerprint recognition technology that allows any voter in INDIA to cast the vote to their respective constituency from anywhere in INDIA by going to their nearest voting booth in the place of stay. Also to develop a secure smart voting system based on biometric recognition. Provides the voter to vote from any region with in India to their Residential Constituency from the nearest Voting Booth with a secure voting process without neglecting to vote.

This paper , proposes protected voting system to avoid the unlawful voting. The authentication of an individual is made using biometric and capability of the voter is affirmed using the Aadhaar. In this system the data stored in the Aadhaar card act main criteria for authentication and conformation. The security is provided through biometrics such as fingerprint. The fingerprint information stored in the Aadhaar is taken as the reference and used for authentication at the time of voting.

Basic electronic machine which is used nowadays has some laggings like multiple vote casting from one member and invalidity of votes are checked automatically. To reduce these disadvantages, the smart automatically processed and fingerprints are used to reduce multiple vote casting in simple way.

This paper has shown the possibility of establishing E-Voting protocol based on public-key encryption cryptosystem. The security of the proposed E-Voting depends on RSA public key encryption protocol. It allows the voter to vote from his/her own personal computer (PC) without any extra cost and effort. This protocol is proposed to replace the unreliable previous voting system, since voters feel justifiably confident that their votes will be counted.

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This system provides security from all type of attacks, when vote is travelling from voting client to voting server from their experimentation. These attacks include security threats from passive as well as active intruder. For authentication of voter instead of USERNAME, if we can use thumb impression of voter or capture photo of his/her face and compare it with photo stored in our database, it will be more secure.

In this paper , a block-chain-based voting system. It needs time to popularize block-chain for a voting system as it is a novel idea and voting itself is a crucial matter in a democratic country.

The proposed model is more secure than other models and it is suitable for use in major elections on a large scale. After casting a vote with NCVVS system, the voter receives a confirmation email containing the ballot fingerprint (and also the fingerprint of the election) calculated by standard hash function SHA (256) .

The proposed work is based on the block-chain technology, which remove all the threats from the communication link. It is a decentralized system, contain hashing and encryption concept for providing the security.

In this paper , used of Aadhaar card provided by UIDAI with QR code present in it. Online instead of offline mode and storing the voting data to secured online server. Results can be displayed by admin after entering user id and password.

Blockchain is offering new freedoms to grow new kinds of computerized administrations. While research on the theme is as yet arising, it has for the most part centered on the specialized and legitimate issues as opposed to exploiting this novel idea and making progressed computerized administrations. In this paper, author will use the open source Blockchain innovation to propose a plan for another electronic democratic framework that could be utilized in nearby or public decisions. The Blockchain-based framework will be secure, solid, and mysterious, and will help increment the quantity of electors just as the trust of individuals in their administrations.

In this article , author propose the principal self-counting decentralized e-casting a ballot convention for a positioned decision casting a ballot framework based on Borda check. This convention needn't bother with any confided in arrangement or counting power to process the count. The citizens communicate through an openly open notice board for executing the convention in a way that is openly irrefutable. Our fundamental convention comprises of two adjusts. In the first round, the electors distribute their public keys, what's more, in the second round they distribute their randomized polling forms. All citizens give Non-intelligent Zero-Knowledge (NIZK) verifications to show that they have been following the convention determination sincerely without uncovering their mysterious votes. Toward the finish of the political race, anybody including an outsider spectator will actually want to register the count without requiring any counting authority. This system give security verifications to show that our convention ensures the most extreme security for every citizen.

Author propose a functional stage free secure and obvious democratic framework that can be sent on any blockchain that bolsters an execution of a savvy contract. Undeniable nature is intrinsically given by the fundamental blockchain stage, though cryptographic procedures like Paillier encryption, confirmation of-information, and linkable ring mark are utilized to give a structure to framework security and client protection that are free from the security and protection highlights of the blockchain stage. We break down the accuracy and intimidation obstruction of our proposed casting a ballot framework. We utilize Hyperledger Fabric to convey our democratic framework and break down the exhibition of our conveyed conspire mathematically.

Author present the first implementation of a decentralised and self-tallying internet voting protocol with maximum voter privacy using the Blockchain. The Open Vote Network is suitable for boardroom elections and is written as a smart contract for Ethereum. Unlike previously proposed Blockchain e-voting protocols, this is the first implementation that does not rely on any trusted authority to compute the tally or to protect the voter’s privacy. Instead, the Open Vote Network is a selftallying protocol, and each voter is in control of the privacy of their own vote such that it can only be breached by a full collusion involving all other voters.

Political violence related to elections has been common in Africa and other developing countries. BEV can ensure security and transparency and reduce electoral violence. It can also produce more mathematically accurate election results. Because BEV doesn’t require management from a central authority, votingrelated costs will decrease. Finally, BEV should reduce the cost of paperbased elections and increase voter participation.

III. EXISTING APPROACH

A lot of work has been done in this field thanks to its extensive use and applications. This section mentions some of the approaches that have been implemented to achieve the same purpose. These works are mainly differentiated from the algorithm for E-voting systems. The existing machine had security risks that can potentially undermine the election process. In addition to human error; internet e-voting is susceptible to a range of threats such as hacking by domestic and foreign saboteurs, technical glitches, voter impersonation and even system failure.

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IV. METHODOLOGY

In our system Block Chain Concepts are applied to Online Voting System when we are developing a Smart E-voting system by taking advantage of block Chain concepts with web interface.

The proposed model has a greater security in the sense that voter high security OTP and Adhar Card is confirmed before the vote is accepted in the main database. The additional feature of the model is that the voter can confirm if his/her vote has gone to correct candidate/party. In the proposed system the tallying of the votes will be done automatically, thus saving a huge time and enabling Election Commissioner of India to announce the result within a very short period.

A. Flow Diagram

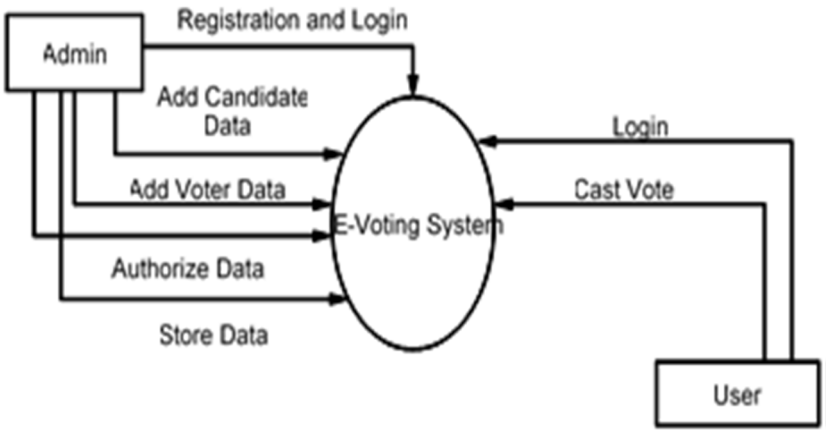


Fig.1 : Block diagram of e-voting system

B. Algorithm

AES Algorithm for Encryption.

AES (advanced encryption standard).It is symmetric algorithm. It used to convert plain text into cipher text .The need for coming with this algo is weakness in DES. The 56 bit key of des is no longer safe against attacks based on exhaustive key searches and 64-bit block also consider asweak.AES was to be used128-bit block with128-bit keys.

Rijendeal was founder. In this drop we are using it to encrypt the data owner file.

Input:

128_bit /192 bit/256 bit input (0, 1)

Secret key (128_bit) +plain text (128_bit).

Process:

10/12/14-rounds for-128_bit /192 bit/256 bit input

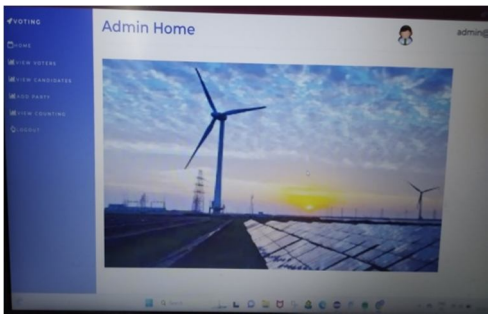
Xor state block (i/p)

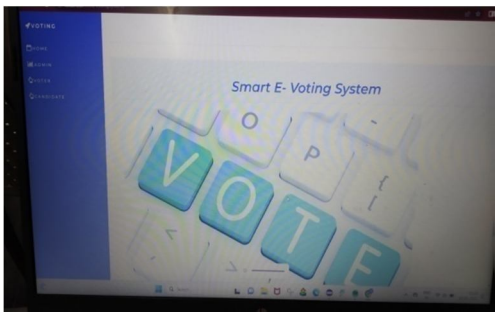
Final round:10,12,14

Each round consists: sub byte, shift byte, mix columns, add round key.

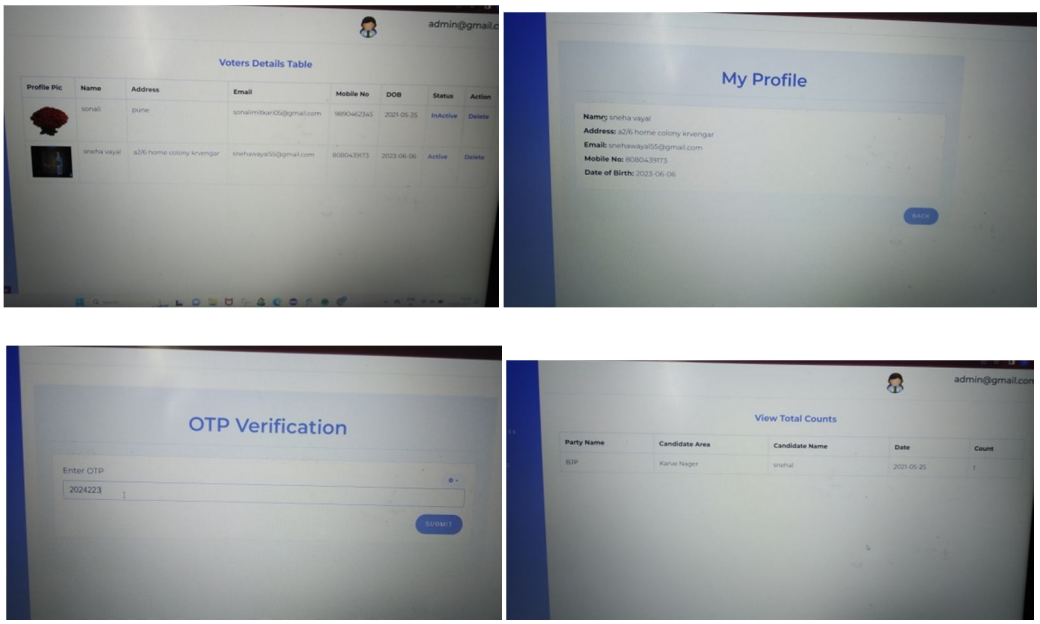
Output:

Cipher text (128 bit)





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V. CONCLUSION

This paper described, an electronic Voting system for small to medium sized Internet-based public opinion systems that provides privacy of vote, voter's authentication, auditability, security, double-voting prevention, fairness voting device from manipulating the authenticated voters voting choices.

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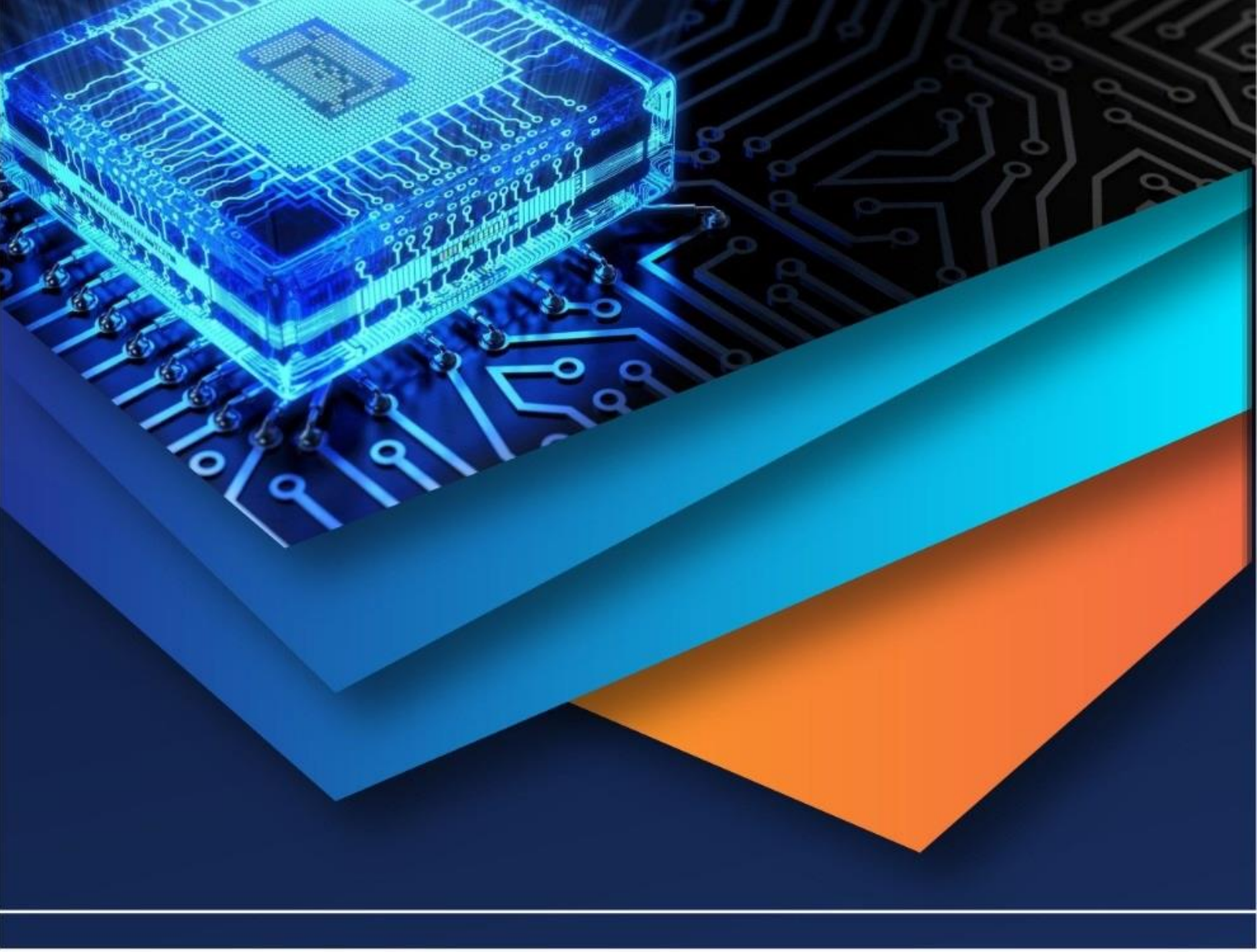
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