Aadhaar Based Biometric Electronic Voting To Avoid Rigging

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ABSTRACT: This paper describes a biometric electronic voting machine to avoid rigging for Indian election proposed for the first time. The proposed model has greater security in the sense that voter high security fingerprint is confirmed before the vote is accepted in the main database of the election commission of India. The extra feature of the model is that the voter can ensure if his/her vote has gone to correct candidate/party. In this technique rigging is avoided. The election commission of India to announce the result with in the short period and should saving an enormous time.

KEYWORDS: Aadhaar, Arduino, Finger print, LCD display, alarm, power supply,

I. INTRODUCTION

This paper examines policy regarding the electronic approaches and developments towards electronic data storage and transmission. Fingerprint devices for voting machines and different existing identity documents are mentioned and enforced during this project. The user should show his voter ID card whenever he goes to the booth to poll his vote.

Aadhaar based biometric voting system is contemplated as an interesting topic in information security research. Aadhaar voting system is a way that helps public to select their representatives and express their preference for how they will be governed. Thus to avoid this type of issues, designed a finger print and biometric based voting machine wherever the individual no ought to carry his ID which contains his entire details

The controller reads data from the reader and compares this data with the already exist data. If the data matches with the already stored information, the person is allowed to poll his vote. If not, a message displayed on LCD and therefore the person is not allowed to poll his vote. The polling machine to carry out manually using switches. LCD is employed to display the related messages.

It is hard to make the voting system trustworthy only because it has high security requirements: confidentiality means all voters get assured about the privacy of voters and prevent selling of votes. Integrity is easy to get through a public show of hands, but dissipates confidentiality comes from the secret ballots, but this fails the integrity.

The proposed system provides peoples to vote in a secure manner without any fear. Biometric electronic voting also provides the security to the voters by storing the votes against malevolent candidate. This system also guarantees not to leak the vote in front of anybody.

Fingerprint recognition and biometric, the electronic methods of recording and recognizing an individual finger print and iris, advanced substantially during the last decade of the 21th century. Today, identification can be achieved in a few seconds with reasonable accuracy. As a result, the use of automated fingerprint identification systems (AFIS) that record, store, search, match and identify finger prints is rapidly expanding. AFIS can be integrated with a microcontroller and other peripherals to form an embedded system which is a comprehensive electronic voting machine with fingerprint and iris identification system.

Aadhaar database is created containing the thumb impressions of all the voters in the constituency. Illegal votes and repetition of votes is checked for in this system. Hence if this system is utilized the elections would be truthful and free from rigging.

II. LITERATURE SURVEY

1. **AADHAAR BASED E-VOTING MACHINE USING ARDUINO:**

In Aadhaar based electronic voting machine using arduino are newly developed information which has all the information concerning the people. By using this database we can the voters information will be stored within the personal computer.

In this technique capture the finger vein image and compare or match to database. If the fingerprint matched suggests that this person will be valid for polling section and if condition is satisfied automatically.
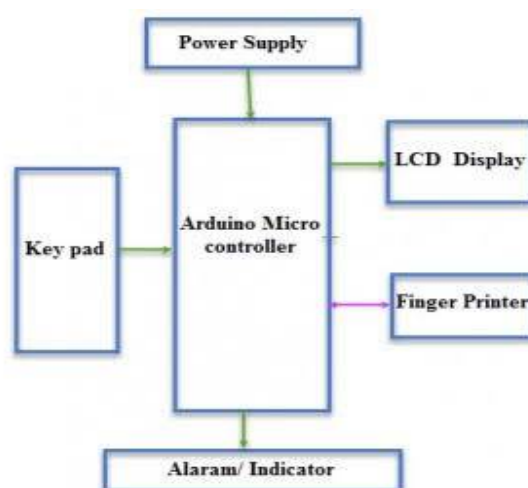
Hardware description

Aadhaar based Biometric electronic Voting Machine hardware mainly contains a controller, finger print scanner, iris scanner, lcd display, power supply, keypad, alarm& indicator. Each of the components are described below.

If the aadhaar database has been stored already in the computer. If candidate he/she allowed into the election booth with aadhaar card ID. Here the voters first scan the QR code. After scanning the QR code the voter allowed for voting process. If the fingerprint matches voters should choose their candidate. Otherwise the voters cannot suppose to vote. Anyone can easily duplicate the others fingerprint is one of the main drawback for aadhaar based electronic voting technique.

2. ONLINE VOTING SYSTEM FOR INDIA BASED ON AADHAAR CARD:

In online voting system, all the information of each voter is added/uploaded in main database of Election Commission of India according to aadhaar identity. Candidate details are informed to voters by using their e-mail id.

When election date is announced server will be activated for voters to cast their votes. if the voters should recognize their fingerprint after choosing their candidate. The main drawback for Online voting system are the hackers should easy hack the technique and literate people don't have any awareness of the online voting system.

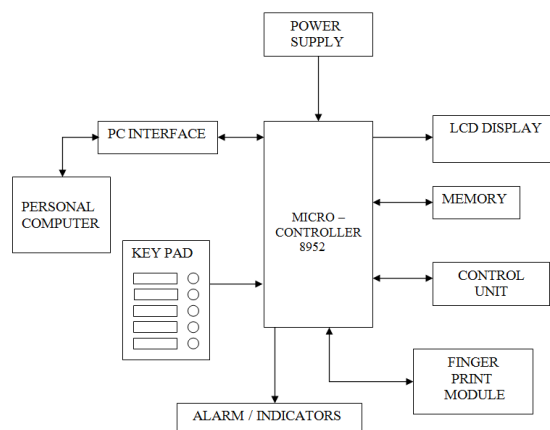**3. BIOMETRIC SYSTEM BASED ELECTRONIC VOTING MACHINE USING MICROCONTROLLER:**

This technique was published in journal of electronics and communication engineering in 2015. The hardware components are AVR controller, EEPROM, fingerprint module, LCD interface, keypad, personal computer and power supply.

Thus the EEPROM used for creating the database for voters and recognize their fingerprint. The use of automated fingerprint identification systems (AFIS) that record, store, search, match and identify finger prints is rapidly expanding. E-voting is done by verifying thump impression. In microcontroller, the pin configuration is difficult and also rigging is possible.

4. ELECTRONIC VOTING MACHINE:

In India, Electronic voting machine technique is followed by election commission. By connecting ballot and control system by using 5m cable and push buttons are used to select the candidate. In electronic voting machine which consume more time to announce the result.
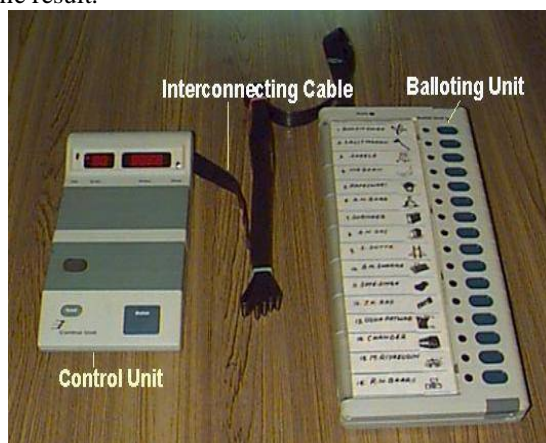
It is not possible for a voter to be altered eliminated the invalid vote cannot be counted from the finally tally. Neither authority nor anyone else can link any ballot to the voter. Before announcing the result high security are applicable for voting machine.

IV.EXISTING METHOD

- Paper polling
- Electronic voting machine
- Online voting system is implement by Election Commission of India.
- Aadhaar based electronic voting machine.

PROPOSED METHOD

Here we have introduced fingerprint as recognition for the voter who votes in the election. The voters who do not vote in the election at twice the voter have been warned by the election commission. Otherwise his/her name will be removed by the election commission form the voter list in the fore coming election. Instead of using buttons in the ballot box we have introduced touch system to cast their votes. For postal vote the voter list will be enrolled in web server by election commission. The enrolled persons only they can cast their votes in the online website.

HARDWARE DESCRIPTION

Fingerprint scanner, controller, LCD display,

FINGERPRINT SCANNER

In Aadhaar based biometric electronic voting to avoid rigging, USB fingerprint scanner used. USB fingerprint is based upon unique NITGEN Fingerprint Biometric Technology. USB Fingerprint Scanner is a device for computer Security featuring superior performance, accuracy, durability based. USB Fingerprint Scanner can be plugged into a computer separately with your mouse. USB Fingerprint Scanner is very safe and convenient device for security instead of password that is vulnerable to hack and is difficult to remember.

BLOCK DIAGRAM:
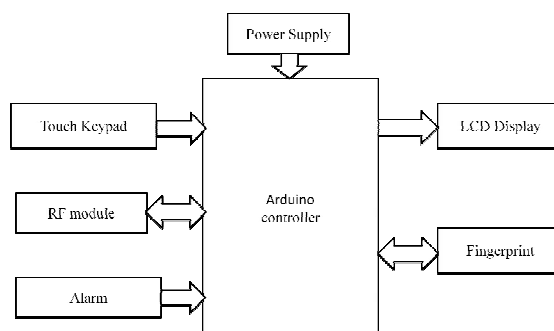
Use USB Fingerprint Scanner with your choice of compatible biometric software for authentication, identification and verification functions that let your fingerprints act like digital passwords that cannot be lost, forgotten or stolen.

DESIGN AND IMPLEMENTATION

In this technique, the details of the voter can obtained from the AADHAR card database. These details are latest updated information which has all the information concerning the people. By using the database took the voter's information will be stored within the personal computer. At the time of elections, for fingerprint accessing fingerprint module is used.

In ADHAAR based biometric electronic voting initially the voter should scan their QR code as well as their fingerprint to verify their identity with voter list. If both QR code and fingerprint matches with the database then the voter is allowed for the voting process and then they should poll their vote for their selective candidate and at last they should again verify their fingerprint for conforming their vote.

Important steps of Aadhaar based biometric electronic voting to avoid rigging are;
1. Upload the voters and candidate information in the Ardunio controller
2. First the voter should scan their QR code/fingerprint
3. If both matches the voter allowed for polling process and in the LCD display the information of voter are displayed
4. At last they should verify their vote for selective candidate by using fingerprint recognition and confirm their vote submission.
5. If both QR code and fingerprint recognition doesn't matches the voter will not permitted to cast their vote.

VI.CONCLUSION

This paper describes the proposed method for AADHAAR based biometric electronic voting to avoid rigging. The proposed system is much secure and efficient than the traditional voting system. This paper suggest that the system has to be further studied and innovated to reach all level of community, so that the voter confidence will increase and election officials will make more involvement. It is expected that the proposed AADHAAR based biometric electronic voting will increase the reliability of the existing electoral system.

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