

Review on Aadhaar Based Voting System using Biometric Scanner

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Abstract - This paper describes overview of various research done to improve the security, privacy of the e-voting technology. To make such kind of system, every system consists of voter authentication and vote casting. Now days using of biometric based security level system become faster and secure. In India, government is collecting bio metric information of every person and providing them a unique twelve-digit number called Aadhaar Number. Hence, using of Aadhaar number and its biometric database voter verification can be made, after verification voting can be perform.

Key Words: Aadhaar, Database, Fingerprint, E-Voting, QR Code, GUI (Graphic User Interface), Web server.

1. INTRODUCTION

The balloting method is employed to permit the citizen to pick their decisions in specific problems, items of legislation, subject initiatives, constitutional amendments, recalls or to decide on their government and political representatives. Now day's technology is employed to perform such balloting among the world. To form it secures each electoral system consists of citizen identification and authentication. And further process like voting cast, result of voting are included. In India electronic voting system is used, but is used only to cast voting. To verification of the voter's, man power requires at the polling booth. The process of verification of voter, take much time. To overcome these problems an inbuilt voter verification system is needed in the voting machine.

In India, the government started collecting biometric information of public and providing them a unique identification number called Aadhaar number. Hence, the database of UIDAI can be used to authenticate the voter.

When person enters the Aadhaar card in the machine, it will scan the quick response code (QR code) present in the Aadhaar card. It will decode the Aadhaar number and send it to database to verify whether it is present or not. Then it drives the next finger authentication stage. The authentication can be done using finger vein sensing with the help of fingerprint module. If finger print matched it allows the authenticated voters to vote on electronic voting machine.

2. LITERATURE SURVEY

2.1 Biometric finger print based electronic voting system for rigging free governance using ARM7 TDMI processor based LPC2148 controller. (May-2014)

K.Mallikarjuna¹, T.Mallikarjuna².

The author has discussed maintaining the centralized database of voter according to their consistency. The centralized database can also be updated online by having each polling station maintain their local database and update the centralized database after completion of election process. This paper also aims to provide RFID, Biometric Security and Secret Pin Authentication Phase. When voter perform vote casting the Boolean status of that voter marked true, so that the same voter cannot vote for second time. A RFID card will be provided to each voter. [1]

But to provide RFID based Voter card to every citizen will become costly.

2.2 Fingerprint Based e-Voting System using Aadhar Database. (March-2015)

Rohan Patel¹, Vaibhav Ghorpade², Vinay Jain³ and Mansi Kambli⁴.

In this project the author has proposes a secure on-line e-voting system that uses UIDAI or Aadhaar info as its backend. The system guarantee authentication by matching fingerprint and eligibility is checked by calculative the age of the elector so creating the prevailing pick cards redundant. They need projected associate integration of the CIDR thereupon of e-voting mechanism to form e-voting in India a reality.

A client server web enabled software design is employed during this project. A user interface accepts voters Aadhaar number, provides associate interface to vote and show confirmation, standing and error messages. This technique needs smart information measure and high-speed web affiliation for in operation. [2]

To run this software computer is required, but we cannot ensure that every person having the knowledge of handling computers. Resulting the voters may become victim of social engineering.

2.3 Fingerprint and RFID Based Electronic Voting System Linked with AADHAAR for Rigging Free Elections. (March-2016)

B.Mary Havilah Haque¹, G.M.Owais Ahmed, D.Sukruthi, K.Venu Gopal Achary, C.Mahendra Naidu.

In this paper author has discussed to use the fingerprint or iris data of the Aadhaar Card to use in voting system. Advantage of this project is, if an alcoholic person enter into polling booth buzzer will alert authorize person or constable who are in the election duty. In this project, for enrolling purpose, enroll button is provided. If citizen isn't enroll his vote on the info of micro controller, Vote won't be casted. In this system, LCD is interfaces with the same controller to display the result of election after pressing 'Result Button'. Other circuitry and device like Alcoholic and Gas detector, Metal detector, fingerprint module and RFID tag reader is connected with same micro controller [3].

In this system RFID card is used for voter identification. RFID tag will contain its unique Number. But to provide RFID card to every person (citizen) will become much costly. And no provision is given to get secure access to admin, for getting final results.

2.4 Aadhaar Based Electronic Voting System. (May-2016)

Prof.R.L.Gaike¹, Vishnu P. Lokhande, Shubham T. Jadhav, Prasad N. Paulbudhe.

In this paper author has discussed that voter identification is required during two phases of the electoral process: first for voter registration in order to establish the right to vote and afterwards. At balloting time, to permit a voter to exercise their right to vote by confirming if the person satisfies all the necessities required to vote (authentication). Security is the important key of any voting system. [4]

In this method, the details of the voter will get from the Aadhaar card database. It was a newly developed database. By using this information they took the voter's info are hold on within the PC. Throughout election they use finger sensing module for fingerprint accessing. [4]

According to their conclusion, it is very difficult to design an ideal e-voting system which allows perfect security and privacy with no compromise. Their future work is to interconnect all the polling stations with an internet security. [4]

2.5 AADHAR based Electronic Voting Machine using Arduino. (July-2016)

R. Murali Prasad, Polaiah Bojja, Madhu Nakirekanti.

This paper describes and online voting system for Indian Elections. In this the all users should log in by Aadhaar card number and password. The high security password is confirmed before the vote accepted in main database of ECI. [5].

In this project the database of Aadhaar will be stored in CPU, after matching finger voter has to press button dedicated to any political party. After that it will print a token which contain party name and time [5]. Voting casting is happening offline mode.

3. CONCLUSIONS

This paper review wide range of biometric and Aadhaar based voting system. In some projects RFID is used, but it will become costly. Hence, using of Aadhaar card provided by UIDAI with QR code present in it is good instead of using RFID cards. Our future work is based on online centralized Aadhaar database, Aadhaar Card (with QR), fingerprint module and inbuilt GUI. We are working to make voting process 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.

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