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# Aadhar Based Electronic Voting Machine

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**ABSTRACT:** This project examines policy regarding the electronic approaches and developments towards electronic data storage and transmission. Finger print devices for documents are discussed and implemented in this project. The voter has to show his voter ID card whenever he goes to the polling booth to cast his vote. It will consume time because the person has to check the voter ID card with the list he has, confirm it as an authorized card and then allow the person to poll his vote. Thus, to avoid this kind of problems, we have designed a finger print based voting machine where the person need not carry his ID which contains his entire details. The person at the polling booth has to show his Fingerprint. This data is passed to the controlling unit for the verification purpose. Then controller reads the data from the reader and compares this data with the already existing data. If the data matches with the already stored information, the person is allowed to poll his vote by selecting switch. If not, a message is displayed on LCD and the person is not allowed to cast his vote.

## I. INTRODUCTION

The objective of voting is to allow voters to exercise their right to express their choices regarding specific issues, items of legislation, citizen initiatives, constitutional amendments, recalls and/or to decide on their government and political representatives. Technology is being employed additional and more as a tool to help voters to poll their votes. To permit the exercise concerning this right, the majority voting systems around the world include the following steps citizen identification and authentication, voting and recording of votes cast, vote counting, publication of election results. Voter identification is needed during two phases of the electoral process: first for voter registration and subsequently, at voting time, to allow a citizen to exercise their right to vote by verifying if the person satisfies all the necessities required to vote (authentication). This system examines policy regarding the electronic approaches and developments towards electronic data storage and transmission. Finger print devices for voting machines and different existing identity documents are mentioned and applied during this project.

The user should show their voter ID card whenever he goes to the booth to poll his vote. This is time consuming process because the person needs to check the voter ID card with the list he has, make sure it as an authorized card and then enable the person to cast his vote. Thus, to avoid this type of issues, a finger print based voting machine is designed where the individuals need not carry his ID which contains his entire details. The person at the polling booth should show his Finger. This Finger print reader reads the details. This information is sent to the controlling unit for the verification. Then controller reads DATA from the reader and compares this data with the already existing data. If the data matches with the already stored information, the person is allowed to cast his vote.

The polling mechanism is carried out manually using the switches LCD is employed to display the related messages.

Security could be a heart of e-voting system. So the necessity of designing a secure e-voting system is very vital. Usually, mechanisms that ensure the security and privacy of election are often time consuming, expensive for election administrators and inconvenient for voters. There are completely various levels of e-voting security. Security must be used to conceal votes from someone. There is no measurement for acceptable security level, as a result of the extent depends on kind of the information. An appropriate security level is always a compromise between utility and strength of security method.

## II. LITERATURE SURVEY

- 1) Christopher Fletcher[3] conducted to assess the efficiency, effectiveness, and satisfaction of registered voters when they fill out a ballot paper and cast that vote on a DS200-based, paper-based ballot. After the voter has marked and cast a vote on the DS200, digital sensors simultaneously read both sides of the vote, accurately record the election of voters, and the counter forwards the vote to the combined ballot box
- 2) R. Murali Prasad, Polaiiah Bojja and Madhu Nakirekanti [1] describes the online election system of the proposed Indian elections for the first time. The voting system is easily managed as all users have to log in

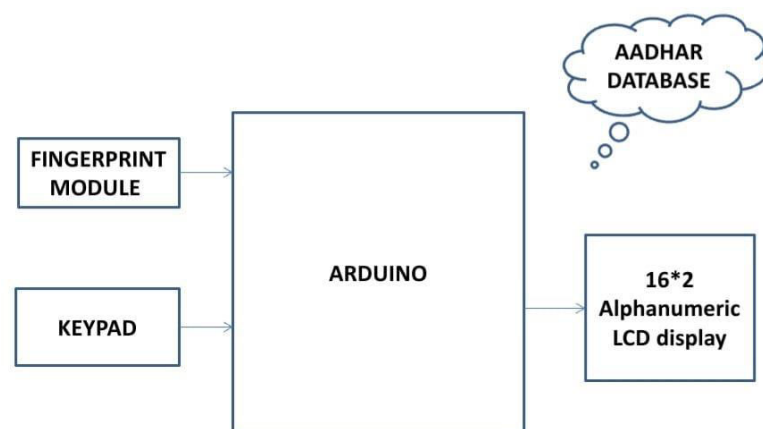
with the Aadhar card number and password and click on those who choose to vote. This includes greater security in the sense that a voter password is verified before a vote is received on the ECI's main website. An additional feature of the model is that the voter will ensure that his or her vote has corrected the candidate / party.

- 3) Hari K. Prasad[2] presented security analysis of real Indian EVM obtained from an unknown source. We describe the design and operation of the machine in detail, and evaluate its safety according to the appropriate selection procedures. They conclude that despite the simplicity of the equipment and the less reliable computer base of the software, it is at risk of serious attacks that could alter the election results and violate the confidentiality of the vote.
- 4) Rudrappa Gujanatti [4] have discussed the design of a voting machine based on fingerprints where the user does not need to carry his or her identity document containing his or her required details. A person in a voting position only needs to place his or her finger on the device, thus allowing the receiver of a fingerprint present in the voter to act as an identifier. This fingerprint reader reads the information from the marker. The controller downloads data from the reader and compares this data with existing data stored during voter registration. If the data matches the previously stored information of registered fingerprints, a person is allowed to vote.

### III. OBJECTIVE

- The term "AADHAR CARD BASED VOTING SYSTEM", stands for voting system to protect security, integrity and transparency. In India, a person over the age of 18 may or may not have a voter ID. As the Government of India has mandated that the AADHAAR CARD should be affixed to all institutions under the Government sector such as banking sector, ticket booking, food sector etc.
- Everyone will have an AADHAAR CARD. The AADHAAR CARD therefore plays an important role in the proposed design where the voter needs to enter his AADHAAR number and fingerprints.
- The most important purpose of this project is to design a system that asks the user to present his or her fingerprints as proof of identity. This voting system can read all fingerprint data and verify this data with AADHAR CARD already stored on its website. Once all the information is available on the website, the system allows a person to enter the polling station to vote.
- On the other hand, if the information does not match the data available on the website or the vote is voted more than once with a particular finger, the system does not accept the votes.

### IV. PROPOSED DESIGN



Here in Aadhar primarily based EVS, using the information primarily based server for Aadhar details, Internet of things for the online technology and Raspberry Pi is employed for interfacing with all other modules. The voter has to scan his thumb mistreatment the biometric and providing the thumb data that's scanned is matched with the pre-loaded server information the elector can permit to forge the vote else the Authentication will fail and voter will not be able to cast the vote. Once the voter is authenticated the details of parties will enable and conjointly the data of voter are shown on



the system. When casting the vote the switches are disabled till next voter is authenticated and LCD shows a message as "thank you for voting".

The fingerprint & Aadhar no of voters is stored in Aadhar database. The voter need to give his finger print & if it matches with Aadhar database & if he is eligible his name, Aadhar number & age will be displayed in LCD & if he is below 18 then "not eligible" will be displayed on LCD. He can cast his vote through keypad & the party name will be displayed to which he has casted his vote.

#### V. CONCLUSION AND FUTURE WORK

Aadhaar database is created containing the thumb impressions of all the voters in the constituency. Here Illegal votes and repetition of votes are checked . Hence if this system is utilized the elections would be truthful and free from rigging. During this project thumb impression is used for the purpose of voter identification or authentication. As the thumb impression of each individual is unique, it helps in maximizing the accuracy. The votes are counted and the results are then announced.

In future we can add eye recognition to increase the performance of the electronic voting machine.

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