

“Biometric Voting Machine using Aadhar Authentication”

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Abstract - The main objective of this paper is to design and develop biometric based voting machine using adhar authentication. Citizen should choose the leader out of all the candidates by casting their votes and this process is called as 'voting'. In existing voting system if people live in other city which is different from the address in voting card then people had to go their home consistency on Election Day for voting but here we propose the system which allow the voters to vote electronically from their current city. In this technique we used fingerprint for authentication, and for fingerprint authentication we use adhar card database. Now a days everybody has a adhar card with unique adhar number hence it is highly secure as compare to current existing system.

Key Words: Fingerprint module¹, Arduino², LCD display³, Keypad⁴, Buzzer⁵, Push Buttons⁶

1. INTRODUCTION

We are presenting a new Electronic Voting System with fingerprint scanning that will overcome the drawbacks of current voting methods that are used in India. Currently, the voting system in India is inefficient and vulnerable to outer threats, the only thing is that the security checks is a voter ID card, which these days are faked by many. It is slow and counting the votes manually can take a long time. In some rural areas, where there is not much security available, polling booths are captured and often most ballots are destroyed. So, the development of such system will cut out these possibilities and many votes can be saved even if such incidents occur. Purpose of this machine is to allow the voter to cast their votes for selecting government or political representative (leader) because voting is the only way in which opinion of all people is carry out for selection process.[1] In current voting system voter has to go pooling booth and show their voter ID then officer check their ID from the list that he has. If it's information is matched then officer allow voter to cast their vote this system is time consuming and there may be possibility of occurring mistake i.e. fake voting, errors in counting of votes or may user can vote twice hence to avoid such type of problems we designed biometric voting machine using adhar authentication. In this system there is no need to carry voting card simply voter has to press their thumb on fingerprint module, this fingerprint already exist Aadhar card database [2] i.e. person's citizenship, age is more than 18 years etc which are store in personal computer if this database is matched then system allow person to cast his vote and if it's does not matched then system will not allow voter to vote and show 'INVALID VOTER' message on LCD screen.

1.1 Requirements of e-voting

Requirement of traditional voting is acceptable for E-voting for e.g.

Fairness-No one can get the information about voting result before tally.

Eligibility- Only eligible candidate allow casting their vote.

Accuracy- All the candidates should be count properly.

2. LITERATURE REVIEW

2.1 Existing voting system [3]

Verification: In the verification process, voter verifies by showing his/her voter ID card, this step is for public and verified by the governing officer[]. At the end of verification process, governing officer allow voter to cast his / her vote.

Voting: The voting process takes place in a protected booth where voter cannot be seen by any person. The voter cast their vote on EVM machine.

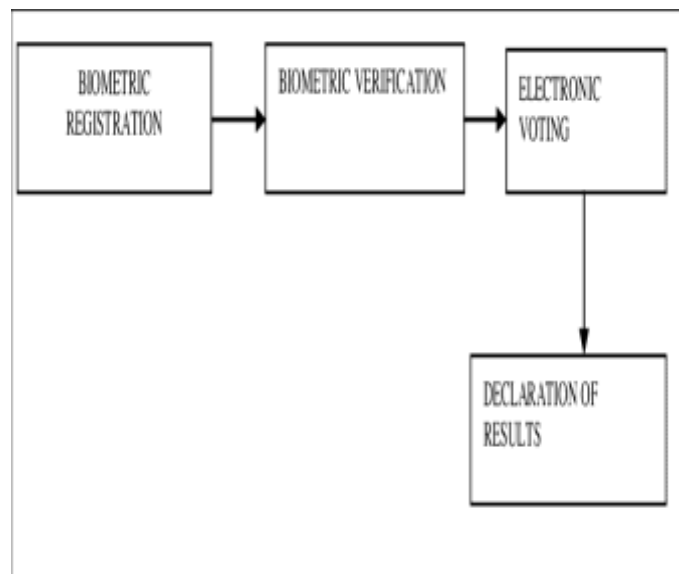
Vote counting: At the end of voting, the governing officer collects the all EVM machine and submitted to the counting center. After that all the members of the election commission nominated by election commission of India, the votes are counted and the results are then announced. Conventional voting systems are does not efficient due to long period of

preparation, bogus voting, and it cannot provide a security. These systems are not more efficient and they are conducted all the procedure manually.



Fig. Current voting system

2.2 Proposed system



In this project, we get the details of voter from AADHAR CARD database. This information available on government of India.[2] This voter's information we will store in personal computer. At the time of election fingerprint accessing by using fingerprint sensing module. Fingerprint module is automated method of verifying a matching fingerprint and it can provide a security, Therefore fingerprint verification may be good choice for electronic voting system. The voter at the polling booth has to show his Finger and scan his finger on fingerprint module. Fingerprint module scan his/her fingerprint and send to controller for matching scan fingerprint with stored AADHAR CARD database in personal computer. If the fingerprint match with already stored voter AADHAR CARD database then he/she is valid for polling sections and voter is allowed to pull his/her vote. If not, a message is displayed on LCD and the voter is not allowed to poll his/her vote. The polling device carries out manually using the switches. When machine switches activate then voter can cast his /her. After that, completion of voting process means polling of vote, the message will be displayed on LCD screen "Your Vote Is successful".[4]

3. EXPERIMENTAL SETUP

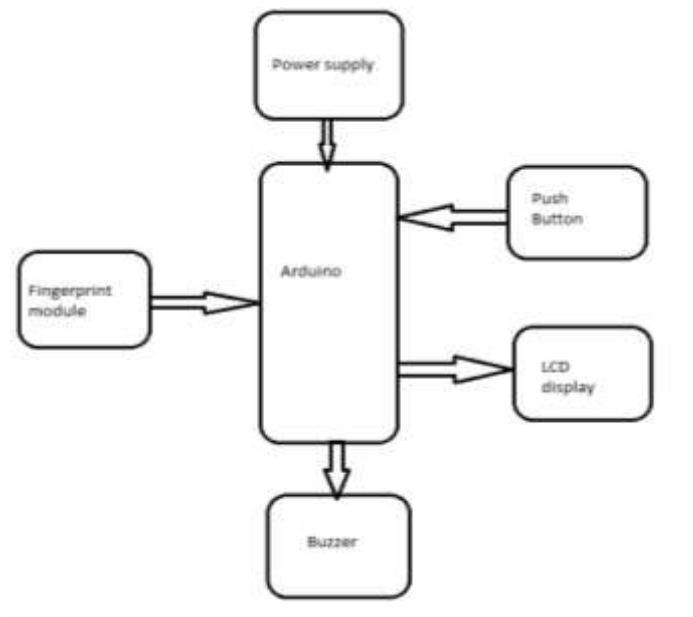


Fig. Block Diagram of proposed system

The above figure consists of power supply section, fingerprint module, Arduino, push buttons, LCD display and buzzer. Power supply of 5V is connected to all components. The information regarding the voter is stored in personal computer. Fingerprint module is used to scan the finger of voter. If the data matches with data stored in personal computer, then the voter is allowed to vote, and if the finger does not match with data stored in personal computer, then the buzzer will beep and the procedure will stop. Selection of the party is carried out by the push buttons. The result, being success or failure, is displayed on the LCD display.[5]

4. FLOW CHART

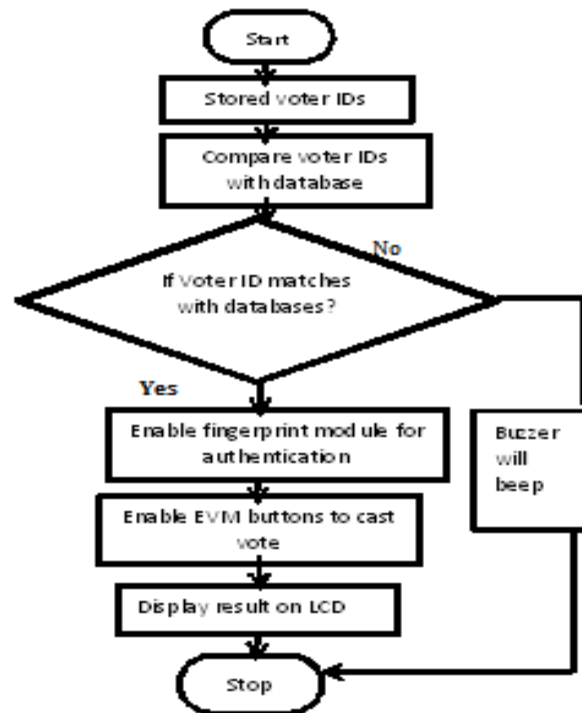


Fig: flow chart

5. FUTURE SCOPE

1. Using GSM module in the circuit we are able to send a message to the voter after voting.[7]
2. System can be further improve by adding face detection technology.
3. Retina scanning can also be develop.[1]

6. CONCLUSION

In total, this system overcomes most of the problems facing during voting period by the paper ballot system. The important disadvantage of the existing system which is rigging is avoided here. Duplication of the card can also be identified in this project. This system affords additional security by allowing voter to vote only once by imparting unique identification i.e. fingerprint. This e- voting system which allows perfect security and privacy with no compromise.

REFERENCES

- 1) International Journal of Engineering Science and Computing, March 2017.5452.... R. Murali Prasad, PolaiahBojja, MadhuNakirekanti,. "AADHAR based EVM.
- 2) M.Sudhakar, B.DivyaSoundaryaSai, IOSR Journal of Electronics and Communication Engg. "Biometric System Based Electronic Voting Machine Using Arm9 Microcontroller". Volume 10, Issue1-Jan-Feb: 2015
- 3) International journal of innovative research in science, engineering and technology...."ADHAR based electronic voting machine using arduino" by R. Murali Prasad et al [1](2016) in which they have....by R. Murali Prasad, PolaiahBojja and MadhuNakirekanti in international journal of Computer application on july 2016.
- 4) International Conference On Recent Advances In Computer Science, R. Murali Prasad, PolaiahBojja and MadhuNakirekanti, AADHAR based Electronic Voting ... of Computer Applications(0975 - 8887) Volume 145 - No.12, July 2016.
- 5) International Journal of Innovative Research in Computer and Communication Engineering. (An ISO 3297: 2007 Certified Organization). Vol. 3, Issue 3, March 2015. Copyright to IJIRCCE. 10.15680/ijircce.2015.0303105... Umang Shah, Trupt Shah, MarteenKansagara, SaagarDaxini. EC Engineer, Dept. of E.C., Gujarat
- 6) International Journal of Innovative Research in Science, Engineering and Technology ... problemcan be solved with the help of combination of biometric finger print.... "Aadhar Based Electronic Voting System and Providing Authentication"by... on Aadhar Card" by Umang Shah, TruptShah, MarteenKansagara, Saagar.
- 7) INTERNATIONAL JOURNAL FOR RESEARCH IN EMERGINGSCIENCE AND TECHNOLOGY, VOLUME-2, ISSUE-3, MARCH-2015. E-ISSN: 2349-7610... Database. Rohan Patel. 1., VaibhavGhorpade. 2., Vinay Jain. 3 and MansiKambli
- 8) [8].IOSR Journal of Electronics and Communication Engineering (IOSR-JECE) e-ISSN: 2278-2834, p- ISSN:2278-8735. Volume10, Issue1, Ver.II (Jan - Feb. 2015), PP57-65... M.Sudhakar,. 2. B.DivyaSoundaryaSai,.1Professor in ECE,