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FINGER PRINT BASED VOTING SYSTEM Using Aadhaar Card

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Abstract—

A voting system which is based on finger print and aadhaar card number which reduce illegal criminal voting and give election result at the spot. A finger print sensor which scans the finger then it automatically shows aadhaar card details in display and we submit vote by using display. Then it immediately stored in the server and then we exit it. Because of this process we can avoid duplicate vote. Reduce the burden of election officers and give actual result of election on up to date. Finger print system is user friendly. it reduce the polling timely to carrying to polling center from the polling box. Reduce the staff of voting center it provide easy and accurate counting with out and troubles.

Keywords— Aadhaar, Biometric, Electronic Voting Machine, Fingerprint and voting system.

I. INTRODUCTION

As we know, in every country Election is a basic process of democracy which allows people to show their opinions by selecting their candidate. India is spending huge money to improve our whole voting system to provide a better government to citizens. In India, voting system should be honest, translucent and fully secure for the better democracy. The current system is used to less transparency because there could be chances of cheating at the voting time. Authentication of Voters, Security of the voting process, protecting voted data these are the main challenges of current Election voting. That's why it is necessary to generate a secure election voting system. In this paper, we have proposed an election voting system which is based on the fingerprint of voter which is saved as Aadhaar card number in a central government database. In the Aadhaar's centralized database, the government collects biometric and demographic data of citizens and provides a 12-digit unique identity number to individual. Fingerprint biometric provide secure authentication because fingerprint is unique to each individual.

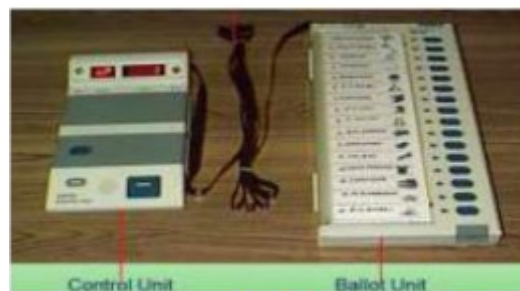
II. Literature review

2.1 Old traditional voting system

In the old system of voting, votes are cast by ballot paper. After entering the polling station, the officer checks identity proof (election ID card) of voters and allocated a ballot paper to a voter. The voter votes by marking the ballot paper with candidates name and symbol by rubber stamp, inside a voting compartment in the polling station. Then voter folds the ballot paper and inserts it in a ballot box.

2.2 Existing Voting System

From 1998, Ballot boxes were replaced by Electronic Voting Machine in India. A Control Unit and a Balloting Unit, these two units is a part of Electronic Voting Machine which is connected by a five-meter cable. The Control Unit is located with the Polling Officer and therefore the Balloting Unit is located inside the voting compartment. Instead of supplying a ballot paper, the Polling Officer can press the Ballot Button. Rather than issuing a ballot paper, the Polling Officer will press the ballot Button. This will allow the voter to cast his vote by means of pressing the blue button on the voting Unit against the candidate and symbol of his choice. The following figure shows the component of Electronic Voting Machine.



Illegal Voting: The very commonly known problem Illegal voting, which is faced in every election procedure. One candidate casts the votes of all the members or few amounts of members in the list illegally. This results in the loss of votes for the other candidates participating and also increases the number of votes to the candidate who performs this action. This can be done externally at the time of voting.

III. Our proposed system

We design a database using visual basic6 software we can easily get the vote of people. Aadhaar based Election Voting System.

3.1 Steps of System:

Step 1: Go to any polling station in State.

Step 2: Then after your turn go in voting compartment.

Step 3: Then give a fingerprint to a scanner.

Step 4: System checks your fingerprint with Aadhaar database's fingerprint and also checks you are eligible or not means you are above 18 or not.

Step 5: Then if you are eligible then it shows message "You can vote" else it shows "You can't vote because you are not eligible"

Step 6: Then we can choose the candidate from the list of candidate.

Step 7: Then your vote is successfully registered.

This system satisfies the following requirements,

1. Peoples can vote without going to their home constituency on the Election Day means they can vote from their current city.
2. Illegal Voting will totally remove because of Fingerprint (a biometric trait which is unique to each individual).

3. Aadhaar's database permits only eligible voters to vote and, it also ensures that eligible voters vote only once.
4. It maintains privacy means authority; ballot officer or anyone else can not link any ballot to the voter.
5. The major benefit of this system is to increase the voting percentage.
6. It also saves time as well as money of traveling.
7. Quick results are possible.

3.2 Limitations of our system

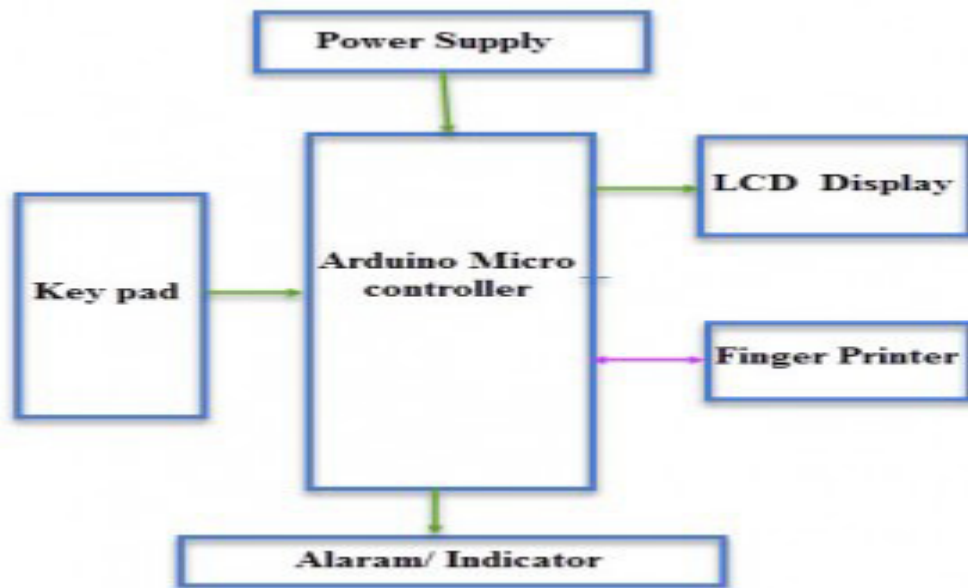
1. People must be enrolled with Aadhaar card.
2. Aadhaar based voting website should be accessible at the voting booth.
3. Fingerprint Scanner must be present in the voting booth.
4. Electricity and the internet are required for the website.

3.2 About Biometric, Fingerprint and Aadhaar

Biometrics is the science of establishing the identity of an individual based on the physical, chemical or behavioral attributes of the person. Physical or behavioral characteristics include fingerprint, face, hand/finger geometry, iris, retina, signature, gait, palm print, voice pattern, ear, hand vein, odor or the DNA information of an individual to establish identity. This information is unique to each person. In the biometric system, biometric data acquire from an individual, extracts a related feature set from that data, compares this feature set with the feature set stored in the database, and then perform an action based on the result of the comparison. People have used fingerprints for personal identification for many decades. The matching means identification accuracy using fingerprints is very high. It has been determined that the fingerprints of each person are unique, also each finger's fingerprint of the same person is unique and fingerprints of identical twins are also different. Today, most fingerprint scanners cost less than Rs.5000, so it is affordable for security reasons. India's central government agency, Unique Identification Authority of India (UIDAI) issues an Aadhaar card. In the Aadhaar database government collect biometric and demographic data of residents, store them in a centralized database and issue a 12-digit unique identity number to each individual. It is considered the world's largest national unique identification number.

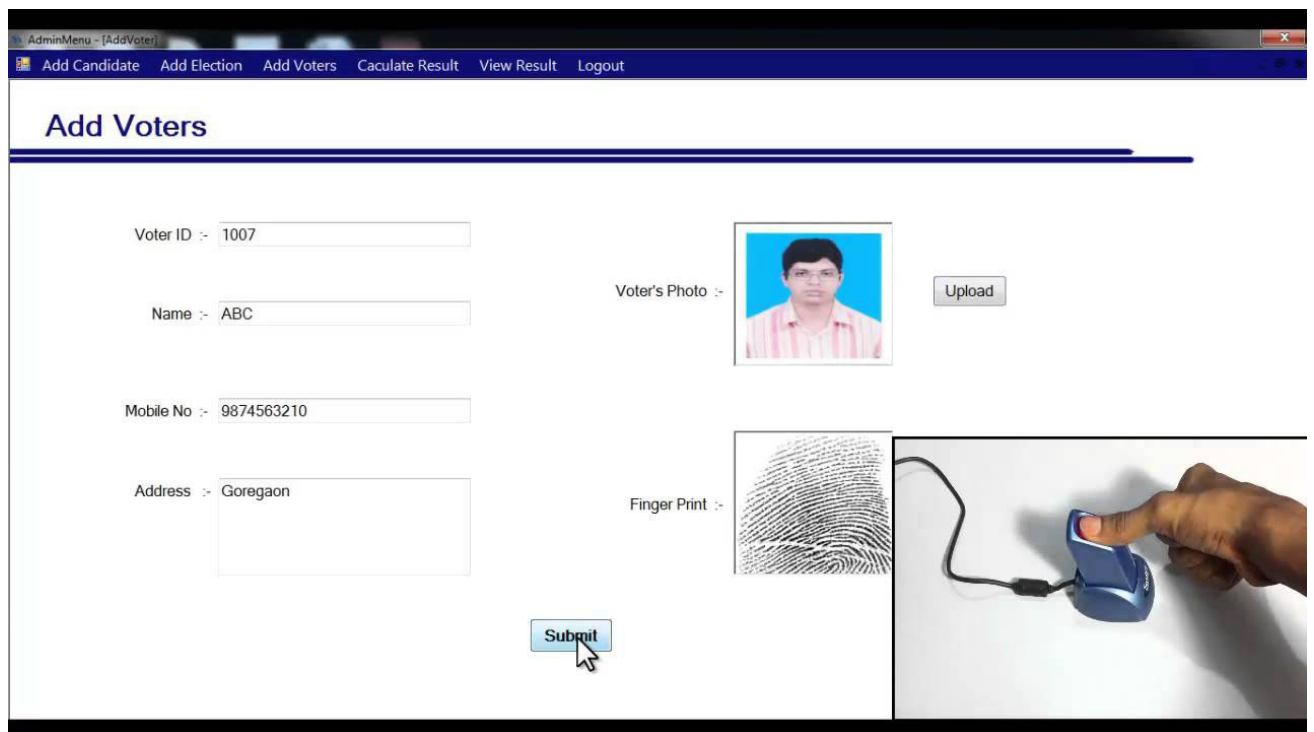
IV. Experimental work

The first page of our work is Home page and the system takes Aadhaar number after clicking "Vote" tab, it verifies aadhaar number and age. After verification system shows voter's information like, Aadhaar number, Name, Address and Date of birth, that are already stored in Aadhaar's database and system ask for voter's fingerprint. If fingerprint image is matched with template image which is stored in Aadhaar's database then next page shows candidate's list with their election party symbol for selection of a candidate. After selecting a candidate, the system asks for vote confirmation. Finally, the system shows result "Vote successfully".



V.Conclusion

This system provides best solutions to problems related to the Indian voting system. This system helps to increase voting percentage. In our voting process authentication can be done using fingerprint recognition to cast voter's votes, it ensures that vote casting cannot be altered by an unauthorized person. It requires Computer/ Touch screen computer, Fingerprint scanner, and electricity. Aadhaar's confidential biometric data may be hacked by the hacker. For the successful implementation of this system, it is very difficult; because it involves political issues, financial issues, and regional issues.



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