

ONLINE VOTING SYSTEM

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ABSTRACT: The project is mainly aimed at providing a secured and user friendly Online Voting System. The problem of voting is still critical in terms of safety and security. This system deals with the design and development of a web-based voting system using fingerprint and aadhaar card in order to provide a high performance with high security to the voting system. The proposed Online Voting System allows the voters to scan their fingerprint, which is then matched with an already saved image within a database that is retrieved from aadhaar card database of the government. The voting system is managed in a simpler way as all the users must login by aadhaar card number and click on his/her favorable candidates to cast the vote. By using biometric fingerprint it provides enough security which reduces the dummy votes.

Keywords—Fingerprint based voting system, Online voting system, Online election system, AADHAAR ID based online election.

1. INTRODUCTION

India has democratic government. As now all Indian citizen become a part of the growing digital India. They have a digital ID that is Aadhar card. Voting schemes have evolved from counting hands in early days to systems that include paper, punch card, electronic voting machine. An electronic voting system which is used nowadays provide some characteristic different from the traditional voting technique, and also it provides improved features of voting system over traditional voting system such as accuracy, convenience, flexibility, privacy, verifiability and mobility. But Electronic voting systems suffers from various drawbacks such as time consuming, consumes large volume of paper work, no direct role for the higher officials, damage of machines due to lack of attention, mass update doesn't allows users to update and edit many item simultaneously etc. These drawbacks can overcome by Online Voting System. This is a voting system by which any voter can use his/her voting rights from anywhere in the country. Voter can cast their votes from anywhere in the country without visiting to voting booths, in highly secured way. That makes voting a fearless of violence and that increases the percentage of voting.

2. LITERATURE SURVEY

To make the voting process very easy and efficient wireless and web technologies are used. The online- voting system

has the possibility of secure, easy and safe way to capture and count the votes in the election.

The author in [1] "online voting system based on adhaar id" uses adhaar id as key of authentication, system is efficient in terms of time and provides security the system is great improvement over traditional system but the main problem resides in this system is that of authentication, the authentication technique used is not that efficient as biometric is not used.

The paper [2] "Secure Authentication for Online Voting System" presents non traceability and integrity of the votes, smart card has been used to avoid multiple votes casted by users, biometric is being used for authenticating voters. The author has introduced smart card for biometric identification and voter id card to be used at the time of casting vote. They are using smart card and voter id card at the time of election which is not feasible as anything can happen to those cards thus relying completely upon cards in not a good idea. And the use of various cards makes the system costly now each and every voter need to have these additional cards. Also it may take reasonable amount of time to generate so many cards. All voting system generated priory though have met various features, which a voting system may consists but the main problem one could find in these system is that little "online" word, despite all techniques they have used to make system robust there is always a chance of malpractice when your system is online.

In [3] "online voting system powered by biometric security" the author has used personal identification number, thumb impression and secret key altogether for authentication of the voter. Techniques such as cover image creation, secret key expansion have been used for securely sending data to server and then further authenticating voters. This system is quite robust; it takes care of authentication as well as security of voter's data stored in server. The main problem with such systems is that despite using various security techniques they won't be able to manage such a huge amount of data that they may encounter during election periods their system is online and they may face congestion during casting votes.

3. EXISTING SYSTEM

The Existing System of Election is running manually. The Voter has to Visit to Booths to Vote a Candidate so there is

wastage of Time. The Voter has to manually register into the Voter List. Also Vote counting has to be done manually. All the Information of the Voter or Candidate is to be filling in manually. Voter must be present in his/her Constituency to give his/her Vote. There are Electronic Voting Machines used which Takes More Cost. The voting system previously being used by the Government is a paper based system, in which the voter simply picks up ballots sheets from electoral officials, tick off who they would like to vote for, and then cast their votes by merely handing over the ballot sheet back to electoral official. Some of the existing systems are:

- i. Paper-based voting
- ii. Direct recording electronic voting machine
- iii. Punch card

3.1 SCOPE

- i. Increasing number of voters as individuals will find it easier and more convenient to vote.
- ii. Less effort and less labor intensive, as the primary cost and focus primary on creating, managing, and running a secure web voting portal.
- iii. The system can be used anytime and from anywhere by the Voters.
- iv. No one can cast votes on behalf of others and multiple times.
- v. Saves time and reduces human intervention.
- vi. The system is flexible and secured to be used.
- vii. Unique Identification of voter through Aadhar number.
- viii. Improves voting with friendly Interface.
- ix. No fraud vote can be submitted.

3.2 PROPOSED SYSTEM

This Online Voting System will manage the Voter's information by which voter can login and use his voting rights. There is a DATABASE which is maintained by the ELECTION COMMISSION OF INDIA in which complete data of voter with complete information is stored. At the time of registration voter will be asked for this: Full name, age, aadhar card no, mobile no. email id, finger prints and verified the details by administrator. At the time of requesting vote, voter will be asked to enter his aadhar id. Then voter will be authenticated, and he can give vote from one of the candidate from the list. If voter already has AADHAR Id then he/she don't need to register, else before voting he/she need register himself/herself in AADHAR database.

3.3 IMPROVEMENT IN EXISTING SYSTEM

As we are looking at the existing system, they are just providing online voting. As we knew that Government of India contain multiple elections. So we are implementing our system such that voter can select election and submit their vote region/ward wise. After studying existing system we observed that they are not providing state wise, region wise voting facility. So its difficult to vote because there is no restriction, so voter can also cast his/her vote to those candidate who is not belonging from his/her area. In proposed system we are implementing that voter can cast his/her vote only those candidate who's belonging from his/her region/ward. We will display only those candidate who are belonging from that particular voters ward. So it will also help to conduct small election such as Gram Panchayat Election or Nagar Sevak Elaction. We are making our voting system user friendly.

4. METHODOLOGY FOR IMPLEMENTATION

Online Voting System can be implemented, using login which requires a fingerprint scan and the name of the candidate.

ALGORITHM:

- **Minutiae Based Algorithm**

In this we use two algorithms: minutiae-extraction algorithm (fingerprint detection) and minutiae-matching (matching fingerprint i.e. input fingerprint and database fingerprint) algorithm.

a. Minutiae Extraction

Fingerprint authentication is based on minutiae patterns matching. Minutiae extraction consisting three components:

- i. Orientation field estimation
- ii. Ridge extraction
- iii. Minutiae extraction and post processing

b. Minutiae Matching

We can match fingerprint by different strategies, such as point pattern matching, image based matching, ridge pattern matching, graph based scheme, etc. The point pattern matching is the minutiae matching. a minutia matching is decomposed into two stages:

- i. Alignment stage
- ii. Matching stage

5. SYSTEM REQUIREMENT

- **SOFTWARE REQUIREMENTS:**

- i. **MYSQL DBMS-** It allows combination, extraction, manipulation and organization of data in the voters' database. It is platform independent and therefore can be implemented and used across several such as Windows, Linux server and is compatible with various hardware mainframes. It is fast in performance, stable and provides business value at a low cost.
- ii. **NetBeans IDE 7.1.2-** The NetBeans IDE is an award-winning integrated development environment available for Windows, Mac, Linux, and Solaris. The NetBeans project consists of an open-source IDE and an application platform that enable developers to rapidly create web, enterprise, desktop, and mobile applications using the Java platform, as well as PHP, JavaScript and Ajax, Groovy and Grails, and C/C++.
- iii. **Testing-** XAMP/WAMP SERVER.

- **HARDWARE REQUIREMENTS:**

- i. Microsoft Windows XP Professional /Windows 7 Professional /Windows 10:
- ii. Processor: 800MHz Intel Pentium III or equivalent
- iii. Memory: 512 MB
- iv. Disk space: 750 MB of free disk space
- v. Finger Print Scanner

6. SYSTEM FLOW

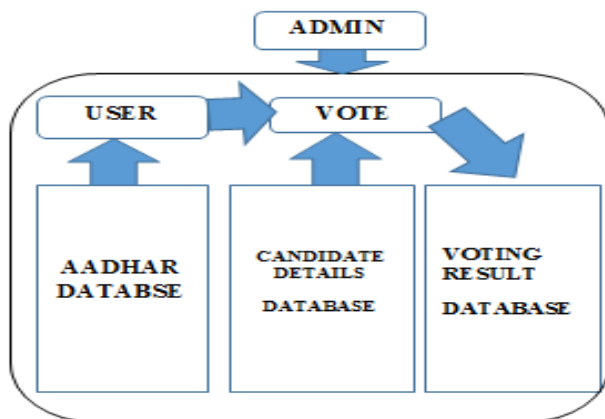


Fig.1 System Flow

7. CONCLUSION

Online Voting Systems have many advantages over the traditional voting system. Some of these advantages are less cost, faster generation results, easy accessibility, accuracy, and low risk of human and mechanical errors. It is very difficult to develop online voting system which can allow security and privacy on the high level. Future development focused to design a system which can be easy to use and will provide security and privacy of votes on acceptable level by proper authentication and processing section.. It is easy to use and it is less time consuming. It is very easy to debug.

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9. REFERENCES

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