

Online Voting System

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Abstract— The main goal of voting in a scenario like including the citizens of a given country is to come up with leaders of people's choice. This project deals with the design, building and testing of online voting system that allows users and election representatives to participate in the online voting. This online voting system is highly secured and its user interface is very simple and also reliable. This will help the users to select their candidates accurately.

Keywords— Fingerprint; image processing; web browser.

I. INTRODUCTION

Online Voting System is the computerized voting system introduced. It enables the voters to vote through computers and view the result in web browser. The primary goal of every voting system is to increase the participation of the civic. Online Voting are simple, attractive and easy to use. It reduces manual efforts and bulk of information can be handled easily. It also creates and manages voting and an election detail as all the users must login by fingerprint verification and click on his favorable candidates to register vote.

II. BACKGROUND

The fundamental idea behind online voting system is to show integrity that is maintain by fingerprint scanner which was drawback of the traditional voting system. It eliminates the drawbacks such as huge paper work, time consumption, no personal role of higher officers, etc. The Online Voting System is the emerging trend in voting system, attracting people to vote through computers. In this system the users has to register first with fingerprint and providing basic information to recognize person. Fingerprint verification will provide security to system thereby maintaining atomicity and isolation would create public trust in online voting, thereby user cannot manipulate by providing false vote.

III. SCOPE

The Online Voting System provides a better way of election between persons and the political parties and thereby provides a compact and stable system for voting. Fingerprint verification will provide main security to the vote of system. It is focused on studying the voting system and to make sure that people's vote is counted for fairness in the elective position. The scope is design with following points in mind:

- 1 Less labor and less intensive, as primary cost and focus on creating, managing and running a secure web voting portal.
- 2 Increasing number of voters as individuals will find it easier and more convenient to vote especially those abroad.

- 3 It is an online and advanced facility which will help voters to vote from anywhere at the given time.
- 4 Limitations of Online Voting System are security issues such as attacks from external (outside hackers or attackers) or internal (corrupt management) or crash issues on the website or voting system.
- 5 Problems with fingerprint scanner Device
- 6 Problems with accessing the website. This is known as "digital divide" which means lower areas will have less to it as compared to developed areas.
- 7 Fraud and coercion or vote buying is a great drawback of online voting.
- 8 Voter Education should be done so that public is aware of online voting system.
- 9 Privatization is one of the basic concerns of the voter while casting his/her vote.
- 10 Thumb impression will provide full security by recognizing person and it could not be easily manipulated.

IV. LITERATURE REVIEW

Use of online voting has the capability to reduce or remove unwanted human errors. IT is reliable, scalable that it can be expanded as per need. Online voting system does not concern with its geographical location of the voters. For example, soldiers abroad can participate in elections by voting online.

Type of voting system till now has been implemented as:

Paper Ballot Voting System - It includes casting the vote using the paper and the stamp. Each voter uses one ballot, and ballots are not shared. The voter casts his/her vote in a box at the polling station.

Disadvantage is Time Consuming, Booth Capture, Low Tally Speed, etc therefore it is not successful at large scale.

Electronic voting machine – It is a type of voting system which uses electronic machine that would allow voters to broadcast their secret vote ballot to election officials over the internet.

Due to big cost, high power, vulnerable in security, etc has reduce its usage.

Recent Voting System Techniques are Reality show Voting through sms, Daily News Polls, Social site polling like this lots of system exit.

A. Image Processing Based Human Face Detection System

The system first acquires, face images using webcam to create the database, than it will detect the location of face in the image and will extract the details from the detected faces. As a result of extraction process, templates are generated which is a reduce set of data that represents the unique characteristic of enrolled user's face. These templates are stored in database. For an unknown face image, template is generated as described above and is compared with those stored in the database, which outputs the identity of that face if a match occurs. Face recognition based systems have many disadvantages due to the following reasons:

- Need high resolution camera device thereby making system expensive.
- Cannot detect difference between the twin person who is having same face expression.
- Low Efficiency.

B. Image Processing Based Fingerprint Detection

Fingerprint recognition is one of the most important biometric technologies based on distinct and unique fingerprints. In fingerprint recognition process, the important step which affects on system accuracy is matching between samples and query fingerprint. Many solutions are designed to increase this step's accuracy. Therefore it is necessary to design a model to standardized fingerprint template in order to improve matching score. For the images of fingerprint, which are of low quality or scaled or rotated together, we propose steps to create a new fingerprint image, which contains features (ridge line and minutia) of the original ones. The steps are:

1. Pre-processing fingerprint image: for each image, we recognize fingerprint area, thinned ridge lines and extract minutiae.
2. Finding and adjusting parameter sets: at first, choose a fingerprint which has largest fingerprint area as mean image. Then, we use Genetic Algorithms to find the transformation between mean image and others.
3. Synthesizing fingerprint: with the transformations in previous step, we re-calculate parameters' value (to get exact value for parameters), add supplement ridge lines and minutiae to mean fingerprint.
4. Post-processing: this step will help removing the noise of step 3.

V. PROPOSED SYSTEM

A. System Analysis

Here in this online voting system users are provided with website where he or she can choose respective candidate (representative) by giving their vote. The user able to do this from any location provided that internet connection is provided to computers or Laptops and also thumb print detection device is made available. Initially Administrator has to open his account and create an Election and the end date of

the election date is mentioned. Depending upon the number of candidates that would stand for the election the Admin would create an Election. All candidate information along with their symbol will be stored in the database. As per our system, first and foremost user has to do registration by filling the form. Then user has to put thumb impression on the provided device that would get store in database along with other information. When user submit the registration form with thumb impression. At that time, the user details along with their information would be stored in the database. When user again login that is on voting day, he or she has to put their respective thumb impression and if the thumb impression matches the he would be given permission to vote. Once a user has voted for a particular candidate he would not be permitted to vote again. The results of the Election can be viewed immediately by the administrator .

Our System has some of the following advantages

- 1) *Load balancing*: Since the system will be available only the admin logs in the amount of load on server will be limited to time period of admin access.
- 2) *Easy accessibility*: Records can be easily accessed and store and other information respectively.
- 3) *User friendly*: The system will be giving a very user friendly approach for all user.
- 4) *Efficient and reliable*: Maintaining the all secured and database on the server which will be accessible according the user requirement without any maintenance cost will be a very efficient as compared to storing all the customer data on the spreadsheet or in physically in the record books.
- 5) *Easy maintenance*: Fingerprint Election System is design as easy way. So maintenance is also easy.

B. System Architecture

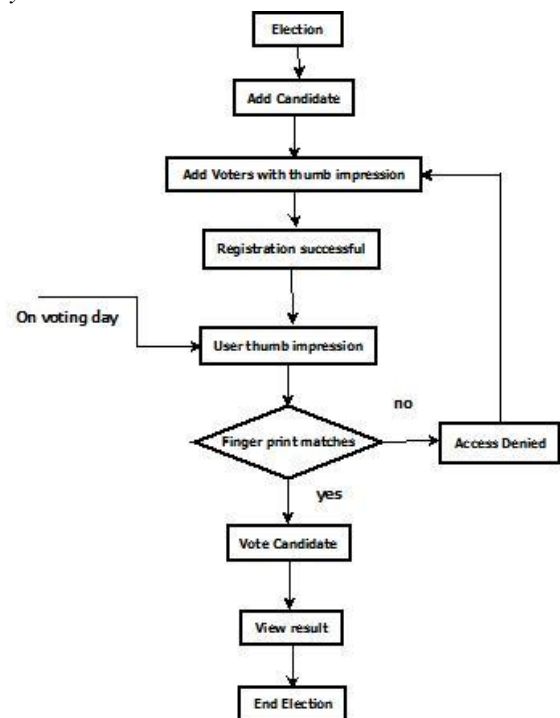


Fig. 1. Flowchart.

VI. RESULT ANALYSIS

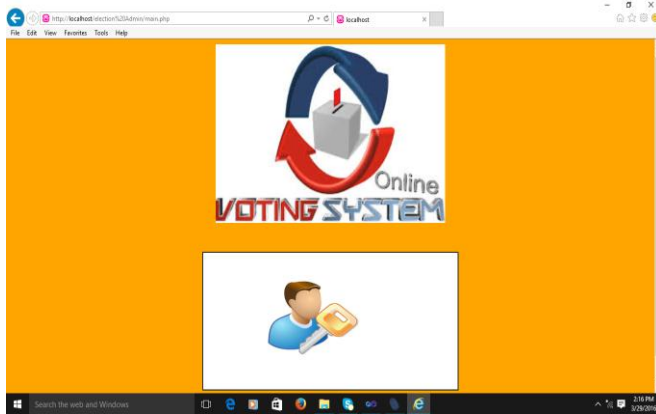


Fig. 2. First page online voting system.



Fig. 3. Election created.

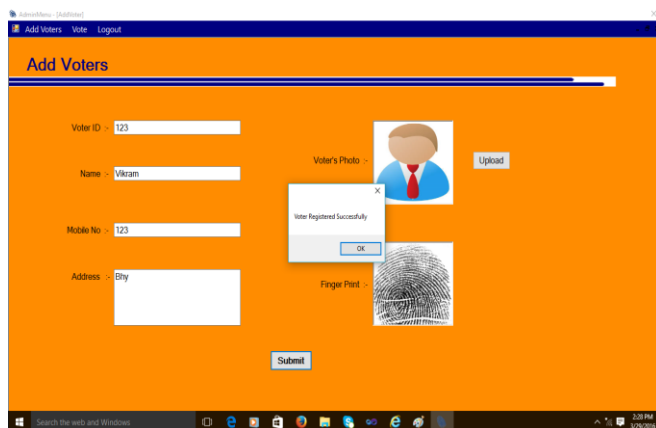


Fig. 4. Voter registration.

Userid	Name	Mobile	Address	Image	Template
fgd	John	mob	addr	Imagefgd.jpg	[BLOB - 76.2 KiB]
test	Tom	mob	addr	Image est.jpg	[BLOB - 76.2 KiB]
101	John	mob	addr	Image101.jpg	[BLOB - 76.2 KiB]
4	test			Image\4.jpg	[BLOB - 76.2 KiB]
1				Image\1.jpg	[BLOB - 76.2 KiB]
150	demo	mob	addr	Image\150.jpg	[BLOB - 76.2 KiB]
1	rohit	28984293	abcd	Image\1.jpg	[BLOB - 76.2 KiB]
31	rohit	32343242	adsdd	Image\31.jpg	[BLOB - 76.2 KiB]
12	rishi	28283208	sdnsa	Image\12.jpg	[BLOB - 76.2 KiB]
123	Vikram	123	Bhy	Image\123.jpg	[BLOB - 76.2 KiB]
234	Vinod	234	Mahim	Image\234.jpg	[BLOB - 76.2 KiB]

Fig. 5. Voters database table.

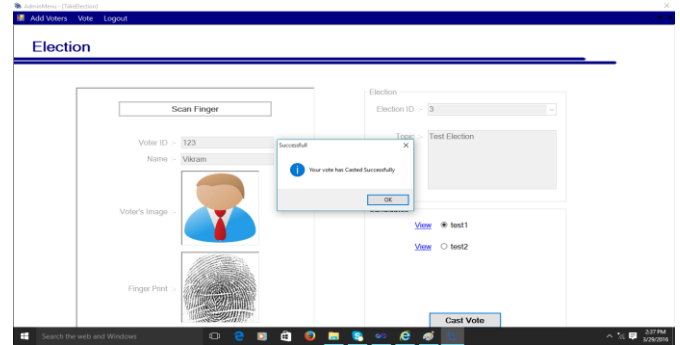


Fig. 6. Voters vote.



Fig. 7. Election result.

VII. CONCLUSION

Thus it is concluded that online voting system will try to eliminate the limitation of traditional voting system by making use of thumb impression. Online voting system will increase voting percentage of the user, since manipulation cannot be done easily. It is need to be implemented worldwide.

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REFERENCES

- [1] M. Patil, V. Pimplodkar, and A. Zade, "A survey on voting system techniques," *International Journal of Advanced Research in Computer Science and Software Engineering*, vol. 3, issue 1, 2013.
- [2] A. Anand and P. Divya, "An efficient online voting system," *International Journal of Modern Engineering Research*, vol. 2, issue 4, pp. 2631-2634, 2012.
- [3] A. Al-Ameen and S. Talab, "The technical feasibility and security of e-voting," *The International Arab Journal of Information Technology*, vol. 10, no. 4, 2013.
- [4] A. Nadaph, R. Bondre, and A. Katiyar, "An Implementation of Secure Online Voting System", *International Journal of Engineering Research and General Science*, vol. 3, issue 2, 2015.
- [5] M. Deepak and P. A. Agalya, "Using image processing based human face detection and tracking-automatic attendance system," *International Journal of Innovative Research in Computer and Communication Engineering*, vol. 2, special issue 3, 2014.
- [6] L. H. Thai and H. N. Tam, "Fingerprint recognition using standardized fingerprint model", *International Journal of Computer Science Issues*, vol. 7, issue 3, no. 7, 2010.