ISSN No:-2456-2165

A Novel Approach: Web Based Technique for Vote Casting

C. U. Chauhan
Abhishek Kalnawat[1], Akshay Aswale[2], Ujwal Gautam[3], Roshan Nemad[4]
Computer Science and Engineering Department,
Priyadarshini Institute of Engineering and Technology- Nagpur, Maharashtra 440019, India

Abstract:- **The constitution of India gives the right to every person to cast the vote and according to the law is the major issue that has been observed that whether the person actually cast votes. The vote casted by a voter is it reached to a candidate or party safely is also the actual right to be known by the voter. In this paper there is the working of how one user can cast his/her vote by first giving User ID and Password and then his/her fingerprint which ensures the high level of security of the purpose of voting. This model actually gives importance to people who actually want to cast their vote, but can't return to their native places to just cast vote. Instead people can sit in their preferred location and cast their votes securely. Thus makes people caste their precious vote easily and securely to the party/candidate they actually want to.**

Keyword *:- Optical Fingerprint Scanner, online voting system, Internet devices, Secure network.*

I. INTRODUCTION

Information security research gives a high interest on concept of online voting. Voter heist to vote online due to security issues. The belief of the election process is more concerned. Voters would appreciate the possibility of voting from anywhere. From that point of view, an implementation of secure online voting would be another application of cryptography and network security. Anatomy and types of attack against computer network was issue seen [2].It is hard to make the voting system trustworthy because of high security requirement, places voting is addressed in [3], describes the public needs a more secure way of casting their vote[4].Confidentiality means voters get assured about the privacy of votes and prevent selling of votes .Online voting system definition given in [5].Online voting systems offer advantages compared to other voting processes. An Online voting system should satisfy requirement such as: Accuracy, Simplicity, Democracy, Verifiability, Privacy, and Security. The system tells that the votes will be done automatically, thus saves lot of time and enables to get results in a very short period of time.

II. RELATED WORK

This paper [1], review that the online voting currently provides the security methods and the done securely. The finger print is the login password used by the voter to login and cast the vote. The threats faced from the one time password given during the login can be hacked by the intruder. Hence to overcome these issues this paper has been proposed and gives the procedural solution to overcome the threats. Author [2] proposed, the anatomy and the type of attack in the computer network issue is deployed and the system is proposed to overcome the issue of this is explained. When there is more number of people to vote the network may face denial of service hence an efficient secure online voting system is proposed and detailed information is given.

The author of paper [3], implements the design on election process which as strong coverage particularly when something goes wrong. Votes which has been casted needs to be highly confidential and the paper shows about the system which increase the level of security and also the trust of the voter. Author [4] proposed design on the problem of the affected places for the voting. The paper deploys on the verification method. The kick given to aim on a more reliable and robust way to vote is addressed in the paper. The verification technique which would be able to vote against the high threats that may occur and enables the voter to verify the votes. Author [5], designs to provide the public more secure way to vote. Increase the dependability to a great extent by this solution provided. The design may respond to more requirement of the voting. The security is concerned as the key attribute and provides the voter with the high level security, details on how the voter can trust on the electronic device. The voter needs to get registered and then he gets the login Id and the password to login. During the time of login the person needs to enter the login Id and password which will the security provided to the voter, proposed the system on the security provided by the finger print. The different technique used to provide security where to avoid the hackers. A unique identity of a person which provides the high confidentiality for the data, reviews the web based Internet voting system provided vote during travelling from voter client to server. The voter are provided with the one time password which will the security tool of this system. The main goal is to provide the multiple encryption and decryption

III. EXISTING SYSTEM

The earlier voting system which is how the voter is casting his vote in the ballet/EVM machine. Here the voter has to write down the name of the candidate of interest and drop his paper into the ballet or click the button in EVM machine there were many disadvantages of this system people who were not educated found it difficult to vote hence uneducated people would not prefer to vote, secondly since the voting is written in a paper manually they had to count the number of votes due to which the accurate number of votes couldn‘t be estimated manual work is always bound to mistakes. While the vote is being casted there are two types of attacks possible passive attack and active attack. Passive intruders can access the vote casted by the voter and hence the secrecy and privacy is not

ISSN No:-2456-2165

maintained. Active intruders can manipulate the vote casted by voter, this does not maintain the voter‘s confidentiality.

- *Disadvantages*

1. The Improper Physical handling of EVM machines can cause damage to it.
2. If the user have the voting card but his/her name is not displayed in the voting list then the user cannot be able to vote.
3. The EVM machine cost is higher than the Proposed System.
4. In some areas there is restriction of time to cast the vote through EVM machines.

IV. PROPOSED SYSTEM

We are designing this system for voting online by increasing the security as well as assuring that the same person is casting his vote. The information of each voter will be uploaded in the main database of the election commission of India which provides matter of confidentiality among the voter and administrator. The details of the voter are provided to the administration during the registration process. The voter casts his vote by following the steps mentioned below.

A. Registration Phase

The person who tends to vote online has to first get registered, thus the registration process takes place.

B. Verification Phase

The details given in the registration phase needs to be verified for the confirmation of the voter. The finger print of the voter will be considered as the authentication of the voter for login purpose, which shows only that particular person can cast his vote.

C. Voting Phase

After verification Phase voter jumps to the voting phase. In the Voting phase voter can see options of Candidate. In which they can Vote to their candidate of Interest.

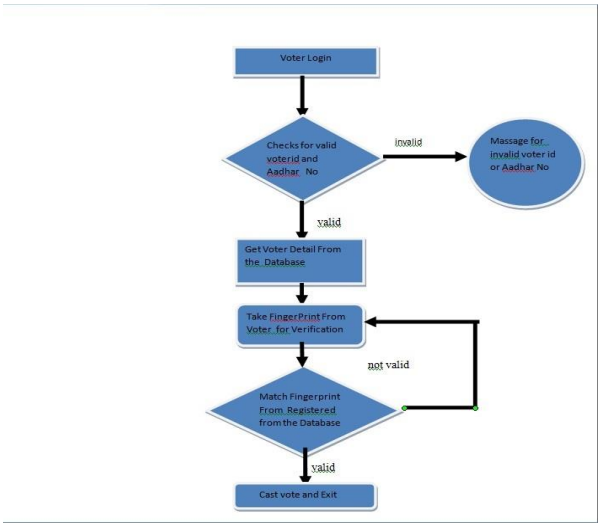

Fig 1:- System Flow

The above Flow Diagram Voting Phase shows the implementation of the Finger Print scanner that we applied in this project. The Working Is very simple. First voter opens the login page and write the Aadhar Number and Voter id for the Authentication phase 1 .After Login the voter will see his/her profile which consist of voter name, address, aadhar number, voter id and voter’s Image.

If all the information showed in the Voter’s Profile is correct then he/she can go further fingerprint authentication phase 2. If the voter’s fingerprint is matched with the fingerprint stored in database then he/can proceed for vote. In the voting phase voter will see the candidate who are standing for Election. By choosing any one the candidate of interest ,voter can complete his/her voting.

At the Authentication phase 1, when voter enters the invalid aadhar number and voter id then error message and said to login again .ones the voter votes then he/she can not do voting again.

D. Admin Panel

The Admin is the person who manages the entire voting system .In this system only admin has the authority to add election ,add and candidates and to display the result.

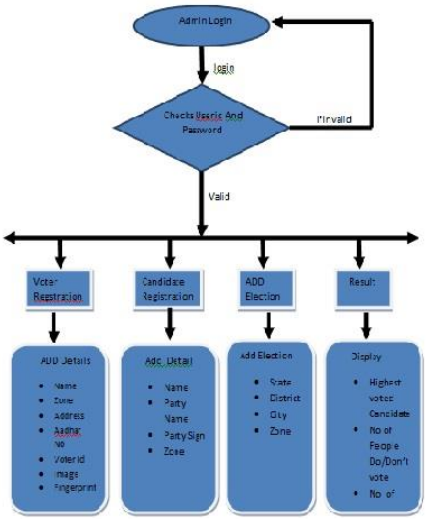

Fig 2:- Admin Pannel

If any voter does not has entry in predefined database then admin can add new voters though its panel. Admin also has the authority to update voters data.

V. FINGERPRINT VERIFICATION PHASE

In this project, we are using optical print fingerprint scanner to scanning
and verification prints.

VI. A FINGERPRINT SCANNER DOES FOLLOWING TWO JOBS

- It scan the Fingerprint and take image of your fingerprint.
- It checks whether the patterns of ridges and valleys in the image is matches with image which is already scanned .

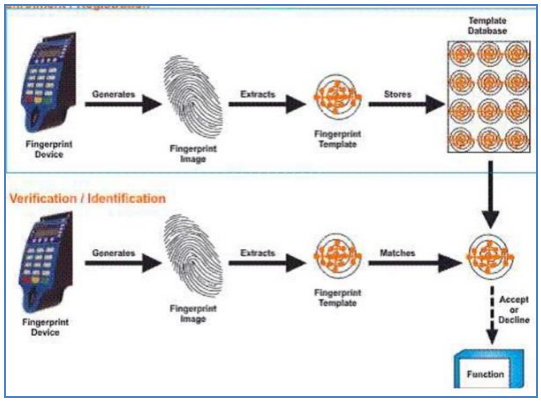

Fig 3:- Fingerprint verification

In this project we using the fingerprint software developer kit. The fingerprint software tool is used by the developer to develop the fingerprint based application.

This sdk give the permission to interact with USB port Fingerprint scanners directly and execute functions provided by sdk for the fingerprint matching.

The fingerprint sdk first capture the fingerprints and convert it into the iso templates and these templates we storing into to the database as fingerprint impression because we cant save fingerprint image as it is the database.

```
function Capture() {
        try {
            var res = CaptureFinger(quality, timeout);
            if (res.httpStaus) {

                var error = "ErrorCode: " + res.data.ErrorCode + "
ErrorDescription: " + res.data.ErrorDescription;

                if (res.data.ErrorCode == "0") {
                    document.getElementById('imgFingerPrint').src
= "" + res.data.BitmapData;

                var src = document.getElementById('hidden').value
= res.data.IsoTemplate;

                }
            }
            else {
                alert(res.err);
            }
        }
```

The function capture is used to capture the fingerprint .

```
function Verify(isotemplate2) {
        try {
            var isotemplate =
document.getElementById('hidden').value;
            var res = VerifyFinger(isotemplate, isotemplate2);

            if (res.httpStaus) {
                if (res.data.Status) {
                    return true;
                }
                else {
                    if (res.data.ErrorCode != "0") {
                        alert(res.data.ErrorDescription);
                    }
                    else {
                        return false;

                    }
                }
            }
            else {
                alert(res.err);
            }
        }
        catch (e) {
            alert(e);
        }
        return false;

    }
```

The Function Verify is used to match fingerprints.

VII. IMPLEMENTATION

Once the voter enters the web page for voting he/she is asked to enter all details along with giving his/her thumb impression. Shows the login page where the voter is asked for his /her details and thumb impression. The voter needs to be registered and get his verification done which will be stored in the database for the verification during casting his/her vote .The registered voter can cast his vote by giving the finger print as the login Id and access to vote and cast his vote as the screen shot.

Step1:-Voter need to login first

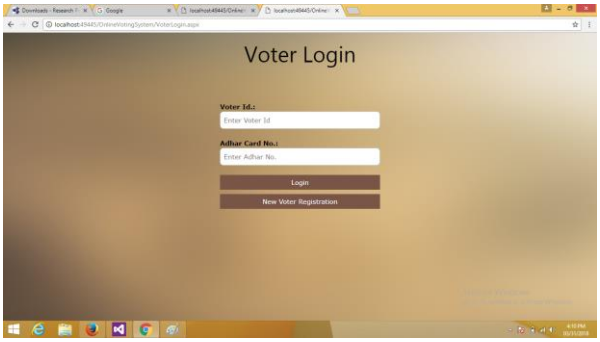

Fig 4:- Login page

Step2:- After Login, profile page will appear if all information true then voter will proceed to fingerprint verification phase

ISSN No:-2456-2165

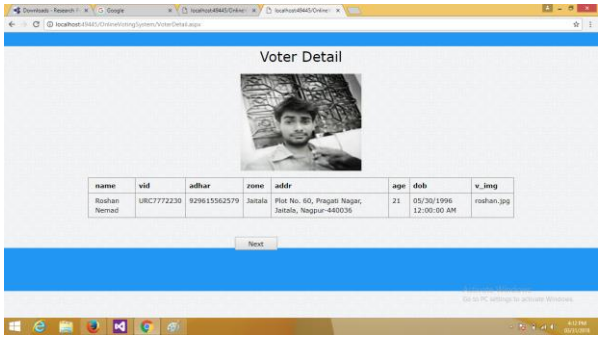

Fig 5:- Profile page

Step3:- Fingerprint verification to confirm voter is authorized person or not

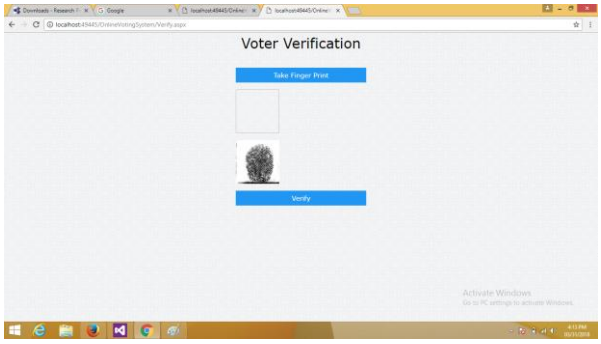

Fig 6:- Fingerprint Verification

Step 4:- candidate list and caste the vote according to the choice.

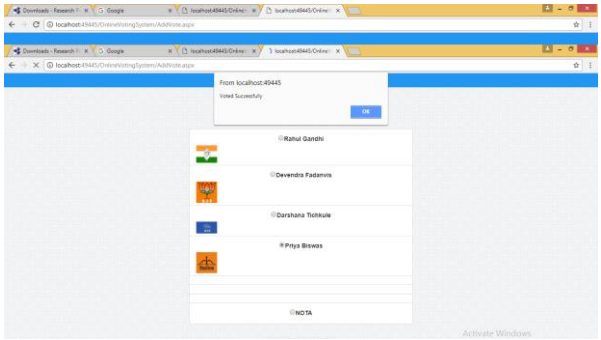

Fig 7:- candidate list

Results:- The results only can declared by the admin.

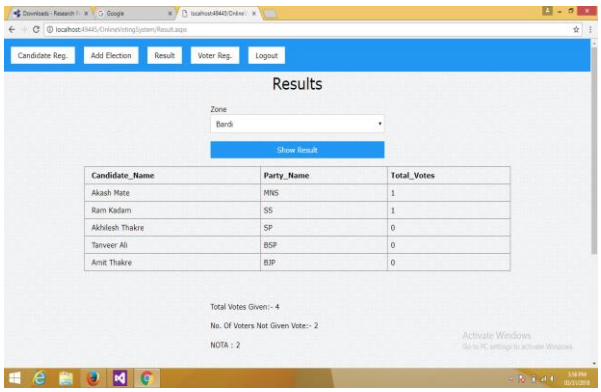

Fig 8:- Result

VIII. CONCLUSION

Casted by the voter, this avoids the duplication of voters (i.e. one person can vote only once). The finger print proves as a unique identity of the voter where the problem of hacking can be overcome In our approach we make use of finger print to secure the login of the voter and also the vote. This system cannot be used by handicap people but ensures security and individuality of the voter. Since the voter‘s individuality will be maintained and duplication of voter is not allowed this system can be used for large scale election such as government. This system can also be implemented by capturing the voter‘s retina or face recognition as the identity for login. Once these features match the voter is allowed to proceed further to cast his vote.

REFERENCES

[1]. Tadayoshi Kohno, Adam Stubblefield, Aviel D.Rubin, Dan S. Wallach,―Analysis of an Electronic Voting System‖, Johns Hopkins University Information Security Institute Technical Report, TR-2003-19, July 23,2003.

[2]. David L. Dill, Bruce Schneier, and Barbara Simons, ―Voting and technology: Who gets to count your vote?‖, Communications of the ACM, vol. 46(8), Aug. 2003, pp. 29–31.

[3]. David Jefferson, Aviel D. Rubin, Barbara Simons, and David Wagner, ―Analyzing Internet voting security, Communications of the ACM, vol. 47(10), Oct. 2004, pp. 59–64.

[4]. Himanshu Agarwal and G.N.Pandey ―Online Voting System for India Based on Aadhaar id 2013 IEEE.

[5]. Prof Praful. R. Pardhi ―A Secure Approach for Web Based Internet Voting System using Multiple Encryption‖ 2014 IEEE.

[6]. N.K Ratha, V.D Pundit, R.M Bolle, V.Vaish, “Robust Fingerprint Authentication Using Local Structural Similarity,” Workshop on Applications of Computer Vision, 29 – 34, ’00.