

VOTING SYSTEM USING RETINA SCANNING TECHNOLOGY

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Abstract - In the era of technology, the voting machine, which is present today, is highly unsecured. The present electronic voting machine is not intelligent and it cannot determine the person came for the voting is eligible or not. In proposed machine that is "Voting system using retina scanning technology", the machine determines the eligibility of the voter by scanning the eye pattern. Vote count is stored in the remote server by converting it into radio waves. Here there is no chance of increasing the vote count of machine. In proposed machine that is "Voting system using retina scanning technology" the machine is made intelligent which can determine the eligibility of the voter by scanning the eye pattern and also the voter count is not kept into the same machine itself instead of it, it is store in the remote server by converting it into radio waves. Here there is no chance of increasing the vote of machine. Even in case of damage to voting machine there will not be harm to continuity of the election process. The overall concept of "Voting system using retina scanning technology" is explained.

Keyword: Technology, Secured, Efficient, Retina Pattern, Remote Server Etc.

I. INTRODUCTION

India is a democratic republic and the largest democracy in the world. The body of voter exceeds 605 million; voting in nearly 800000 polling booths, extend across extensively varying geographic and climatic zones. In democratic countries voting plays a vital role. Hence we should adopt a perfect voting system. In this paper we introduce voting system using retina scanning technology. By using this system we can meet their requirements by allowing them to cast their vote in hands with their mobile phone. By this we can also increase the voting strength. There won't be any problem to the votes as they are saved in the server. It is more secure than conventional voting system. This system is Remote secured system we can check eligibility we can vote from anywhere. Voting is one of the most critical features in our democratic process. By casting a vote we hold previous politicians to account and express our hopes for the future. Of course democracy is more than votes – its debate, letter writing, campaigning, and consultation – but the vote is how every single citizen can wield real and immediate power. In addition to providing for the orderly transfer of power, it also cements the citizen's trust and confidence in an organization or government when it operates efficiently.

It's incredibly important that everyone can vote without interference, safe in the knowledge that it will be counted. So Votes are a vital expression of the people's power, which need to be secret and restricted to only one per citizen.

II. EXISTING SYSTEM

Currently we are using ballot voting system and electronic voting system. These systems are good but they are not secure and cost effective. Let's know about ballot voting system and electronic voting system.

2.1 BALLOT VOTING SYSTEM

We used to have a Ballot voting system in the past and it is also being followed in some of the very few places at present. People were provided with a ballot paper containing the list of candidates, their respective party names and symbols. All the voters had to do was to put a swastika symbol of the candidate whom they want to elect. It had many disadvantages .This system was not a secured one. It was also not a cost effective one.



Fig 2.1: Ballot Box.

2.2 ELECTRONIC VOTING MACHINE (EVM)

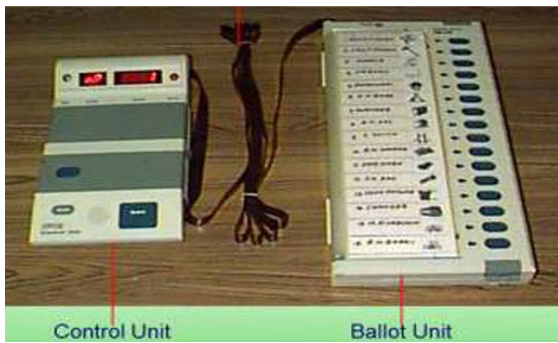


Fig 2.2: EVM System

Now the present system is the Electronic Voting Machine (EVM). This system contains a balloting unit and a control unit. With the help of balloting we can cast our vote by pressing the symbol which lies besides the name of the candidate. Control unit stores all the votes in itself. After the completion of the voting the control unit is detached from the balloting unit. After that nobody can cast their vote and also any one can't increase the vote count. Booth in-charge officer is the one who checks the eligibility of the person who comes to vote and send them towards the machine to cast the vote. The voter has to press the button near the symbol of the candidate whom they want to elect. For getting the result, there will be a button called Result. If we press those buttons we can get the results of the election. Works are going on to introduce "Voter verified paper audit trial". In this the voter will also be given a printed paper containing the details of the vote that he has casted. Government of India has experimented this kind of voting in many places like Chennai central, Bangalore south and Mizoram.

2.3 DISADVANTAGES OF EXISTING SYSTEM

In the present system, as the votes casted will be stored in the machine itself, if the machine gets damaged the votes stored till then will be lost. The machine will not check for the eligibility of the candidate, as it was not designed to that. Voting in-charge officer will take care of those kinds of issues. If the officer is a corrupted one, he may increase the count of voting and he may also destroy the machine. Moreover this system is expensive as we need officers, secured place for counting and for election to be carried out. It needs nearly 5 million man power to conduct voting in India. The voter can't vote from the place where he is. He has to go to his respective constituency to cast his vote. The voting takes place where the machine is located. This system is not a cost effective one. Since we need security, in charge officers, secured place for counting and election place. During

transportation of the machine, the person in charge can change the status of machines and even may destroy.

Some other disadvantages of e-voting system are as follows, Lack of transparency, Limited openness and understanding of the system for non-experts and Lack of agreed standards for e-voting system. System certification required, but no widely agreed standards for certification.

III. PROPOSED SYSTEM

In the Global wireless e-voting machine, the votes being casted will be stored in another remote secured server. An electronic system is used to enable the voter to vote and this vote will be transferred to the remote secured system by converting it into the radio waves. Unlike the previous systems, our system is capable of checking the legibility of the person who comes to voting through scanning his retina pattern. Even if the machine gets damaged the count of voting will not be lost and we can vote from anywhere. A person will be able to vote from mobile system or even through the internet only if he has retina scanner. So in our proposed system we have implemented an efficient technology, that can be very useful for voting purpose and also it is cost effective.

3.1. INTERFACE DEVICE

This is an electronic device which converts the input digital signals such as (retina pattern votes and secure bits) to radio waves.

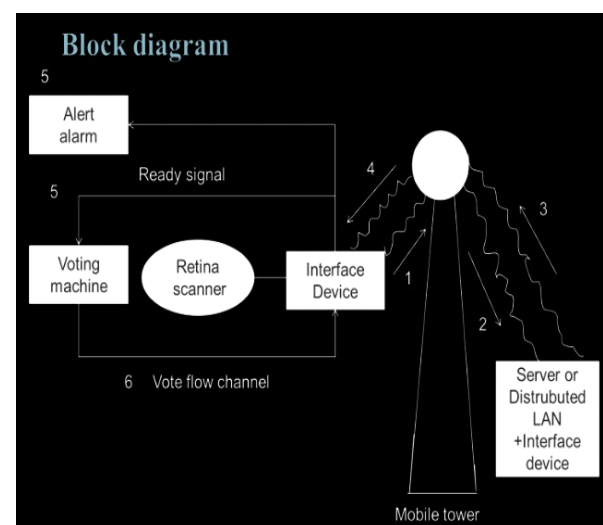


Fig 3.1: Interface Device.

Explanation of the numbers in the above diagram is as follows:

1. Radio waves are being transmitted to the mobile tower. Those waves consist of scanned retina pattern and the vote.
2. Radio waves are being transmitted from the mobile tower to the remote server.
3. Positive or negative acknowledgement is being transmitted from the server to mobile tower.
4. Positive or negative acknowledgement is being transmitted from mobile tower to Interface device.
5. Ready signal will be generated if the retina is scanned appropriately to voting machine. If not so, negative signal will be generated then alert alarm will be activated.
6. Acknowledged vote is prepared to rivulet to the interface device.

3.2. SCANNING OF EYE RETINA

The eye retina scanner is an electronic device that scans the voter's eye retina pattern. The captured figure has to be converted in to the structure of a matrix where it comprises of pixels, where each pixel corresponds to a 24-bit (RGB, 8+8+8 format).

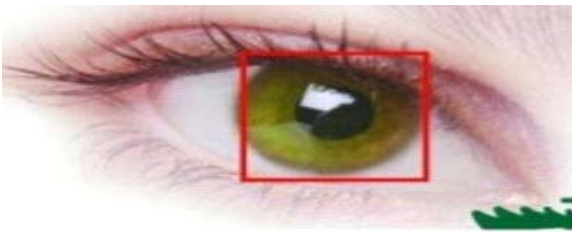


Fig 3.2: Captured figure of eye retina.

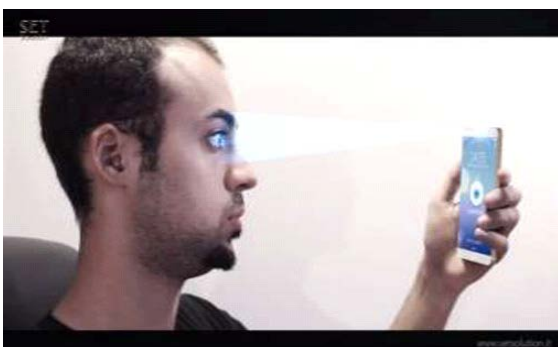


Fig 3.3: Retina Scanner.

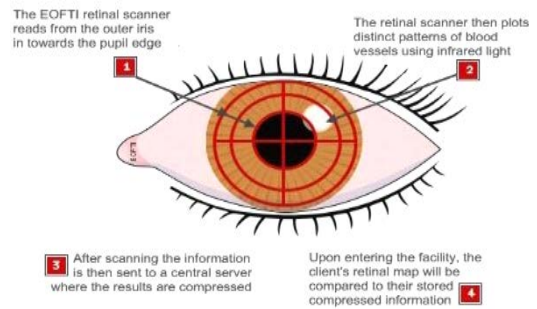


Fig 3.4: Retina Overview.

In the voting system using retina scanning technology there will be two possibilities of voting. Voter can cast his vote with his mobile device, wherever he wants. But the mobile device should have internet connection and also a retina scanner. Coming to another process, voter has to go to the voting booth, to cast his vote. Subsistence of this process is because every voter won't have a mobile device with internet connection and even if he has Internet connection he should also must have a retina scanner. Hence to help them and also to allow the uneducated voters to cast their votes, we go for this process. In this process, when a voter enters the voting booth, he is asked to scan his retina pattern with the help of retina scanner. Once the scanning was confirmed then the machine sends a signal to the voting machine and then the voting machine is turned on, until then it will be turned off. When the voting machine is turned on, he is allowed to cast his vote. Once casting of the vote is completed, the total information together with the scanned retina pattern and the vote is sent to the interfacing device which converts them into radio waves of mobile frequency range and these are send to cellular phone tower and then to the remote server, where the validation of these details will be done. Database consists of identification details of the voter. Once the details are authenticated and if found that the details are valid, then a positive acknowledgement is send to the voter at the voting machine telling him that the vote he casted is valid and it is counted. There will be count variable which will be incremented to one, if the voter votes for the first time. If the voter tries to vote for the second time or the details of the voter are not valid then it sends a negative acknowledgement, which will rings an alarm system .With that alarm system the voting in-charge officer will take necessary actions on the fraud voters. In this way the total voting process goes on.

IV. CONCLUSION

This paper describes some of the technological activities which introducing – voting systems for the next provincial elections. This process of voting can be done at any place. The machine which we will be going to use in this process will provide higher level of security, authentication, reliability, and corruption-free mechanism. By this we can get the result within minutes after the completion of voting. Smallest amount human resource deployment takes place. It also saves huge amount of materials like papers etc. Hence with the utilization of this process we can increase the polling percentage with the reliable, error free, secured and efficient voting.

V. FUTURE ENHANCEMENT

The project can be enhanced to work in mobiles through SMS. With this method we can increase the percentage of voting. But for its implementation security becomes a problem which has to be overcome with the proper secured methods. Here when the voter casts his vote we can provide the voter with a printed paper containing the details of the vote that he has casted. With this printed paper we can reduce the fraudulent actions that can take place.

REFERENCES

- [1] M. Bellare, R. Canetti, and H. Krawczyk. Keying hash functions for message authentication. In N. Koblitz, editor, *Advances in Cryptology CRYPTO 96*, volume 1109 of *Lecture Notes in Computer Science*, pages 115. Springer-Verlag, Berlin Germany, Aug. 1996.
- [2] M. Bellare, A. Desai, E. Jorjani, and P. Rogaway. A concrete security treatment of symmetric encryption. In *Proceedings of the 38th Annual Symposium on Foundations of Computer Science*, pages 394-403. IEEE Computer Society Press, 1997.