

Hacking Free System in EVM

Dnyanesh P. Lengure¹, Dinesh. V. Rojatkar²

^{1,2} Electronics and Telecommunication dept. Government College of Engineering, Chandrapur, India

Abstract: In Hacking free EVM there are used of voter verified paper audit trail (VVPAT) and verified paper record (VPR) technique. Due to this technique the machine can be give valid proof to voter that he can be casted vote about able candidate. In this VVPAT, System is reliable and secured and able to give high accuracy performance. By employing VVPAT system the hacking problem can be eliminated. Due to this reason VVPAT system is widely used in EVM for hacking free system. In this paper presentation we are going to present information about how to used hacking free EVM system and it become beneficial in used.

Keywords: Electronic Voting Machine(EVM), Hacking Free EVM, VVPAT, VPR.

I. INTRODUCTION

The technique of providing feedback to voters using a ballotless voting system is a Voter Verified paper audit trail (VVPAT) or verified paper record (VPR). To detect possible election fraud or malfunction and to provide a means to audit the stored electronic results aVVPAT is intended as an independent verification system for voting machines designed to allow voters to verify that their vote was cast correctly and finely. For storing votes a VVPAT offers some fundamental differences as a paper, rather than recording medium or computer memory medium. A paper VVPAT is readable and visible by the human eye and voters can directly interpret their vote very easily. A device and software which potentially is proprietary required for computer memory. Insecure voting machine records the votes that could be changed quickly without detection by the voting machine itself. It would be more difficult for voting machines system to corrupt records without human intervention. Malfunctioning or corrupt voting machines might store votes other than as intended by the voter unnoticed. A VVPAT allows voters the possibility to detect that their votes are cast as intended and can serve as an additional barrier to changing or destroying votes.

II. VVPAT OR VPR SYSTEM FOR HACHING FREE EVM

The technique of providing feedback to voters using a ballotless voting system is a Voter Verified paper audit trail (VVPAT) or verified paper record (VPR). To detect possible election fraud or malfunction and to provide a means to audit the stored electronic results aVVPAT is intended as an independent verification system for voting machines designed to allow voters to verify that their vote was cast correctly and finely. For storing votes a VVPAT offers some fundamental differences as a paper, rather than recording medium or computer memory medium. A paper VVPAT is readable and visible by the human eye and voters can directly interpret their vote very easily. A device and software which potentially is proprietary required for computer memory. Insecure voting machine records the votes that could be changed quickly without detection by the voting machine itself. It would be more difficult for voting machines system to corrupt records without human intervention. Malfunctioning or corrupt voting machines might store votes other than as intended by the voter unnoticed. A VVPAT allows voters the possibility to detect that their votes are cast as intended and can serve as an additional barrier to changing or destroying votes.

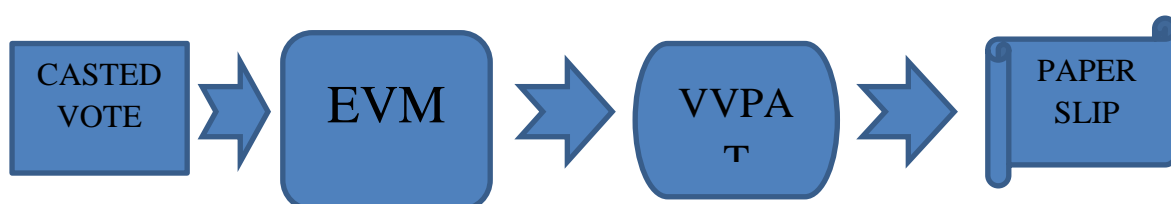


Figure 1: Hacking free Electronic Voting Machine

A fundamental issue in the implementation of voter verified paper audit trails is the performance and authority of the audit. The VVPAT consists of a direct recording electronic voting system (DRE), to know voters that their votes have been recorded as intended. It is intended and some argue are necessary, as a means by which to check out fraud and equipment malfunction. If a recount or re-checking is necessary, depending on election laws the paper audit trail may constitute a legal ballot and therefore provide a means by which a manual vote count can be conducted. A recount of “stored vote” allow only in non-document ballot voting system.

III. FEATURES OF VVPAT

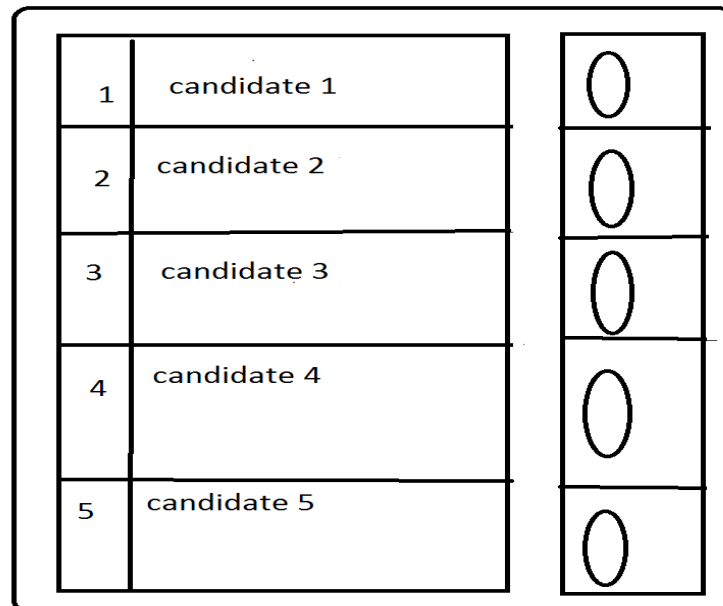


Figure 2: Currently used EVM

- When voters presses EVM button, printer generates a slip that contain serial number of voter, name and symbol of the candidates for whom the vote has been cast.
- Paper slip will remain visible to the voter for upto 5-7 seconds, through a glass covered window. Then it automatically fall in a sealed box.
- Later EC can use these slip for cross checking or verification of votes during recounting.
- Paper slip is valid proof for voter that they can casted for a favourite candidate.

IV. ADVANTAGES OF VVPAT

- The VVPAT system is reliable and secure.
- The system provides high accuracy.
- It is possible to give instantaneous result.
- For identification purpose, unique fingerprint voter ID can be used.
- It can detect any error or faults.
- It gives proof as subject to casted vote, which is correctly.

V. FUTURE SCOPE

- By the development in advanced technology, the fingerprint scanner is neither be complicated nor expensive for used. This system can be constructed in few years.
- Memory of fingerprint module can be achieved to high extent.

- To make it user friendly for voters, audio output can also be introduced in future for its speciality purpose.
- For storing the finger print image, external memory can be provided. Which can be further used for security purpose.
- It make easy & reliable for in future.
- The system is not complicated.

VI. APPLICATION OF VVPAT

- Attachment of a printer to direct-recording electronic (DRE) voting machines that print paper records stored within the machine. Such designs usually present the record to the voter behind a transparent surface to enable a voter to confirm a printed record matches the electronic ballot.
- The records can be manually counted and compared to the electronic vote totals in the event of a dispute.
- The solution linking electronic ballot images and the voter-verified paper record with randomly generated unique voting session identifier is covered by patents issued and pending.
- Attachment of a printer to DRE voting machines that print paper records on special paper with security features.
- The printed page contains both a plain text record and a simple barcode of the voter's selections.

VII. CONCLUSION

- With completion of this paper, we conclude that by using hacking free VVPAT it is ensure that there is no possibility of arising fault.
- Due to incredible features of EVM it is widely used in India.
- It is easy to handle.
- Cost of hardware used in EVM also minimized due to available of semiconductor IC's.
- By using VVPAT it easy to store information and it is used whenever it need.
- There is no need of knowledge of any machine for voter.
- The hacking free EVM easiest to handle and it provide low cost.

ACKNOWLEDGMENT

We show our deep gratitude towards our supervisor Dr. D. V. Rojatkhar who has supported and mentored us throughout our work in a righteous way.

REFERENCES

- [1] D. Balzarotti, G. Banks, M. Cova, V. Felmetzger, R. A. Kemmerer, W. Robertson, F. Valeur, and G. Vigna, ,” IEEE Transactions on Software Engineering, vol. 36, no. 4, 2010 “An Experience in Testing the Security of Real-World Electronic Voting Systems.
- [2] A. Villafiorita and K. Weldemariam, and R. Tiella IEEE Transactions on Information Forensics and Security, vol. 4, no. 4, 2009, “Development, Formal Verification, and Evaluation of an E-Voting System with VVPAT,”.
- [3] Y. D. Wagner, M. Bishop, T. Baker, B. D. Medeiros, G. Tyson, M. Shamos, and M. Burmester, Technical report, Security and Assurance in Information Technology Laboratory, 2007 “Software Review and Security Analysis of the ES&S I Votronic 8.0.1.2 Voting Machine Firmware,” .
- [4] T. Kohno, A. Stubblefield, A. Rubin, and D. Wallach, in Proc. of IEEE Symp. Security and Privacy, pp. 27-40, 2004 “Analysis of an Electronic Voting System,” .
- [5] D. Molnar, T. Kohno, N. Sastry, and D. Wagner,),” IEEE Symp. Security and Privacy, pp. 365-370, 2006 “Tamper-Evident, History Independent, Subliminal-Free Data Structures on PROM Storage-or-How to Store Ballots on a Voting Machine.