

Advance and Secure Voting System

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ABSTRACT: *Electronic Voting Machines ('EVM') are being used in India in the current scenario, usually for state elections, these EVMs have been used since 1999. When compared to the old paper ballot systems, the EVMs decrease the time for both casting a vote and announcing the results, there is no Tampering and protection given for EVMs until 2004 after 2004 Supreme Court and Election Commission decided to implement EVMs with Voter Checked Paper Audit Trail (VVPAT) system, but it also has some difficulties such as missing names in the voting list and many more. An online system that includes procedures such as registration of voters, casting of votes, counting of votes, and announcing results will be a good solution to replace the current system, and the suggested system in this study would be beneficial to the voters by using some tools such as their own or government-arranged system. In addition, the scheme proposed would also reduce the possibility of corruption. The framework is proposed following interviews between officials of two agencies, India's National Database and Registration Authority (NADRA) and India's Election Commission (ECP).*

KEYWORDS: *General election, EVM, Voter, Vote, Identification, Authentication, Fraud, Malpractices.*

INTRODUCTION

Democracy in most western societies is an important question. The election of members is one of the most critical practices within a democracy. It is also a very sensitive approach that is the target of numerous disruptions, such as inactive residents, fraud attempts, etc. I will address some of these problems in this thesis, beginning with the current political situation in India. In terms of a prototype, I will also propose a software solution to the problem that will show the most significant aspects of this question.

System of Voting is the base of Indian democracy in which voters cast their vote to choose their leaders to show their presence for the way that they will be supervised. Schemes of voting have developed from counting by hands in old days to systems which include papers, optical scan machines, punch cards, and mechanical levers i.e. to the e- voting system. This traditional voting system consumes more time therefore maximum population of India is not able to cast their vote because of their busy schedule[1].

Safe and secure e-voting system is a voting system in which the data of election is stored, recorded and processed firstly as digital information & it required to address, mark, deliver and ballots counting with the help of computer. Therefore identification and authentication techniques for voters are necessary for a more safe and secure platform to overcome susceptibility of the server used by the voter to cast their vote. The process of voting by registered voters is very inconvenient[2]. Electronic Voting may soon become a global

nightmare .Besides effective e-Voting technologies, there is a dire need for international standards to govern the technology, the software reliability and accuracy, the processes and algorithms designed within the technology, and the verification of all hardware, software and protocols involved. Such standards will eventually allow elections to proceed in any part of the world without the need for monitoring bodies[3].

Voting schemes have evolved from counting hands in early days to systems that include paper, punch cards, mechanical lever and optical-scan machines. Electronic voting systems provide some characteristics different from the traditional voting technique, and also it provides improved features of the voting system over traditional voting systems such as accuracy, convenience, flexibility, privacy, verifiability and mobility. But it suffers from various drawbacks such as Time consuming , Consumes large volume of pare work , No direct role for the higher officials, Damage of machines due to lack of attention, Mass update doesn't allow users to update and edit many items simultaneously. The Online Voting System overcomes these inconveniences[4]. The Online Voting System is a voting system that allows any voter from anywhere in the world to use their voting rights. A comprehensive overview of the functional and performance characteristics of the online voting system is given. Voters can cast their votes from anywhere in the world, in a highly secure way, without visiting voting booths. That makes voting a fearless act of aggression and that boosts the proportion of votes[5].

Online voting is transparent, tempting and easy to use. It reduces manual work and it is easy to manage the bulk of details. But there are several disadvantages to this method out of all these attributes, there may be a problem of software malfunction, insecure internet connectivity, and voters should also be familiar with the internet. A lot of literature on online voting has been generated in recent years. In recent years, though online voting has been an active research area, efforts to create real-world solutions have only begun to pose a range of new challenges. The use of the vulnerable Internet, well-documented instances of incorrect implementation and the subsequent security breaches has recently been identified. In order to build public confidence in online voting, these issues and concerns have to be overcome[6].

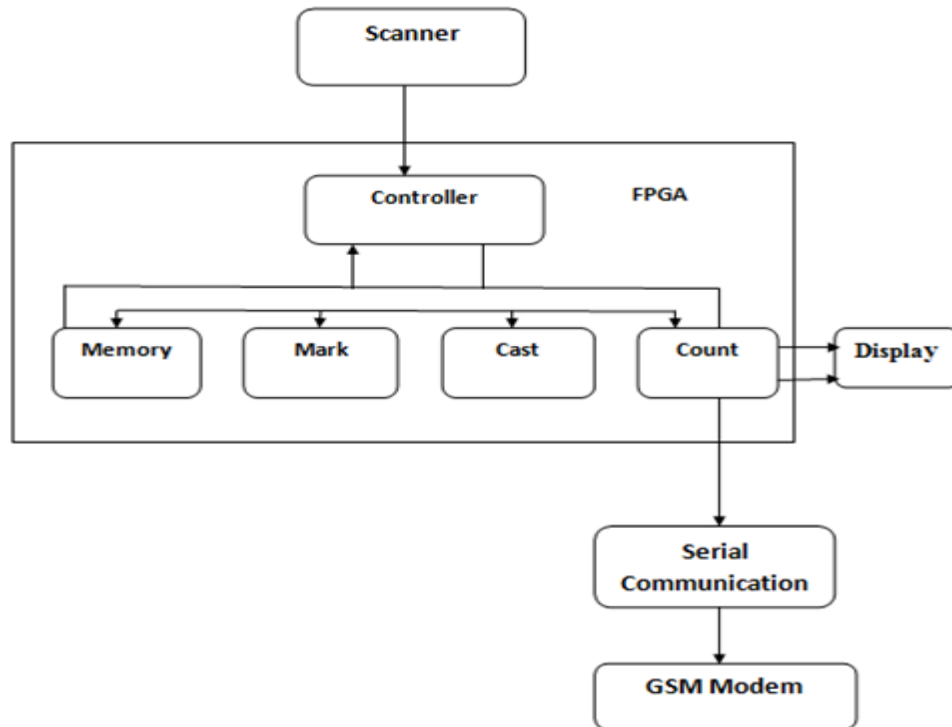


Fig 1: Block diagram of E-voting System

LITERATURE REVIEW

In an offline voting system, paper-based election, the voters cast their votes to select their representative, where they simply deposit their ballots paper in sealed boxes distributed across the electoral circuits across the country. By the end of the election period, all these sealed boxes are officially opened manually by certified representatives and counts votes manually in the presence of certified representatives of all the candidates [7].

In figure 1 Electronic voting (EV) requires the use of a computer in the voting center instead of the conventional use of ballots. It includes the process of choosing an electorate to cast their choice or opinion. It involves numerous forms of voting, including telephone, optical scan ballot paper, kiosks, internet, punch cards, and sense of mark. India is the world's largest democracy, with a population of electronic voting machines designed (EVM). Awkward and endorsed by citizens for elections helps voters to solve issues related to the conventional voting system based on ballots.

VARIOUS TYPES OF VOTING SYSTEMS

ELECTRONIC VOTING

Technology can include punched cards, optical scan voting systems and specialized voting kiosks (including self-contained direct recording electronic voting systems, or DRE). It can also involve transmission of ballots and votes via telephones, private computer networks, or

via the Internet. Electronic voting helps voters to cast votes in an election through computerized equipment. Sometimes this term is used to take votes over the Internet.

MACHINE COUNTING

Machine readable ballot systems provide help to the voters to cast their votes on a paper card with a marker and remove divots from a perforated card with a stylus or mechanical hole puncher.

COMPUTER VOTING

Electronic voting machines visualize like an ATM's or personal computer used to cast votes, which provides help to vote through a keyboard, a touch screen, or a pointer to mark their votes.

In the existing scheme, there are no such guidelines for the application level system in the country for carrying out the voting and the process as a whole. There is also no such application in use in the present state for an electronic voting method according to the voting framework existing in the world. All step-by-step procedures are carried out according to the roles assigned by the ECI by the approved authorities. The truth is that all the procedures are carried out manually, starting from the process of registration to the publication of results.

CONCLUSION & DISCUSSION

Due to many benefits such as protection, automated counting, etc., the digitalized electronic voting system has been replaced by traditional voting mechanisms. In the delivery of accurate, trustworthy elections, this voting method emerges as a significant alternative to traditional methods, decreases human resources, does not need to store EVM's for counting purposes, and gives election results in less time. People can cast a vote online in the future, in which the elector can cast his vote from anywhere in the state to the registered polling booth. It gives confidence in the voting system, only the authorized voter is allowed to gain access to voting. The system is user friendly, in the sense that the user can easily understand the system although the user is a first time user. This is because the design is simple, attractive and does not have too many graphical items. Most important are the requirements for security, correctness, consistency, robustness and coherence.

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