

DIGITALIZED E-VOTING SYSTEM

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Abstract

Secure Online Voting System is an interactive voting system application with which users can vote from any location remotely using their information stored prior in the database securely. Online voting system involves transmission of ballots and votes via network. Security is maintained at different levels like while voting and at the time of transmission of ballots also. The main objective of this work is to create an interactive application of the voting system with which users can participate using their information previously stored in the database while generating the voter ID and the information needs to be modified by the Independent Electoral Commission of India for a perfect user verification period of less than six months (IECI). In this scheme, individuals who have Indian citizenship and who are over 18 years of age and of any gender can vote online without going to any physical polling station.

Keywords: Election, Voter, Vote, E- voting, Security

I. INTRODUCTION

Elections empower the electorate to select their members to communicate their wishes on how they will be governed. The fairness and precision of the democratic process is therefore essential to the integrity of democracy itself. Today, computerized security and fair exchange are emerging in many new technological technologies, including electronic voting, which is becoming a common trend. In every arena is also trying to keep up with the other existing universities. Therefore, People are starting to replace electronic voting with conventional paper voting instead of saving university money and time[1]. The implementation of secure electronic voting systems is very critical in every people's electoral body. The main purpose of e-Voting is to provide a good atmosphere for voters so that students can cast their votes at the least cost and effort. There are so many features that have been proposed to make the process of e-Voting safer. The properties are: - Eligibility: Only eligible/registered students (voters) are required to use the device and cast it. Secrecy: There is no relationship between the identity of the student and the scheme. Exceptionality: More than once, no student can cast his or her vote[2]. Voting technologies have progressed from early hand counting to systems like paper, punch card, mechanical lever, and optical scanning machines. Electronic voting systems offer certain

distinct features from conventional voting methods, as well as offering enhanced features of the voting system over traditional voting systems, such as precision, ease, accessibility, anonymity, verification and mobility. But it suffers from various disadvantages such as time consuming, absorbs large amounts of par work, no direct function for higher officials, computer harm due to lack of attention, mass update does not allow users to update and edit multiple things at the same time[3]. 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. In recent years there is a lot of literature on online voting. While online voting has been an active area of research in recent years, efforts to develop real-world solutions have just begun posing several new challenges. Usage of the unreliable Internet, well-documented incidents of incorrect implementation and the subsequent breaches of security has recently been identified. In order to build public confidence in online voting, these issues and concerns have to be addressed[4].

Electronic Voting (EV) requires the use of a machine rather than the usual use of a ballot at polling stations or by post. It includes a group's method of making a decision or voicing an opinion, such as addressing an electorate, typically following discussions, debates for election campaigns. It involves different means of voting, such as kiosks, the Internet, telephones, punch cards, and optical scan ballots or mark sense. India has developed electronic voting machines as the world's largest democracy, with a population of 1.1 billion (EVM). Elections, adopted and accepted by voters, cause the problems associated with the conventional paper-based voting system to be solved[5]. Regardless of the advantages of e-voting, however, the breadth of its usage globally is still partial, as it has a drawback at many points, such as policy, culture, partisan and technological levels. The paper highlights the progressive and conventional elements of the people's electoral body, since they are the key factors affecting the decision of the management on the use of the university's e-voting system. The functioning of the e-voting system poses various issues that are directly linked to votes, such as legal, social, functional, partisan, managerial and monetary issues. However, taking advantage of the affirmative aspects of e-Voting needs security measures to be introduced in order to address the lack of accountability and to recover the confidence of constituencies and responsible authorities[6].

The value of e-voting is clear; empowerment; it empowers members to have a voice in their organization's leadership and direction. Members would feel a greater sense of value, ownership, and accountability when allowed to vote in fair and open elections. Accessibility; For many participants, online voting is a convenient choice with the rise of mobile devices, allowing them to access ballots anytime, anywhere. Cost efficiency; Elections are cost-effective, especially when printing, postage, and mailing ballots take into account production costs. Security and confidentiality; In order to ensure the security of ballots and the protection

of voter identification, a properly configured e-voting system would be protected. Transparency; the possibility of election mismanagement or fraud is eliminated by e-elections, particularly those run by a third party[7].

An audible trial helps increase the confidence of voters. Accuracy and expedience; there are no rejected, mismarked, or invalid votes because e-voting uses electronic ballots, and results are automatically determined, removing the need for manual tabulation or dreaded recounts. In addition, point out e-voting aims to improve turnout and provides voters with more choices for voting convenience, allows more voters to cast their ballots remotely, and has great potential to promote higher turnout. With e-voting systems, casting and counting votes are also easier and more precise, there are no null or ambiguous ballots by default, and automated selection and counting of ballots reduces the amount of time spent counting votes and transmitting the results. In addition, he pointed out that organizational and administrative costs were minimized by e-voting[8]. The system will reduce the materials required for printing and distributing ballots, the personnel required to assist in voting stations reduces and greater accessibility for the old and disabled people and allows them to accommodate them as they cast their votes comfortably at their own homes. On-line polling is a software framework in which a voter can vote on the voting platform by registering himself. All information entered on the sites is stored in a database. Each page on the website has its own database table. All basic details such as name, sex, religion, ethnicity, criminal record e.t.c. must be entered by each voter. This is the first page of the website referred to as the welcome page. It has all the options for the website, such as House, Polling Dates, Register, Login, Contact us, FAQs. To discourage people from stuffing the ballot box, the Internet census takes precautions; they normally do so at the cost of voter privacy.

Recent democratic elections using voting machines have shown that the winning margins could be smaller than the electoral systems' own error margins, rendering voting an error-prone activity. In contrast with conventional voting methods, electronic voting systems have several features. Earlier than the conventional referendum, organizers decide who is eligible to vote. This could require a formal registration period or an announcement that can be voted on by someone who is a member of a certain party at a certain time. Administrators can validate the credentials of those attempting to vote once the election begins. Electronic voting is important, unlike the conventional way of voting, since it recognizes ways in which polling tasks can be carried out electronically without compromising the privacy of voters or introducing opportunities for fraud. It is helpful to establish a set of parameters for assessing system output in order to assess whether a system performs these tasks well. The requirements to be defined include precision, democracy, ease, versatility, confidentiality, venerability and mobility[9]. Voting is a very efficient way of disclosing the opinion of a group of people on a problem or topic, based on the promise of currently, voting is moving from manual paper-based processing to automate electronic-based processing, with greater reliability, improved scalability, faster speed, lower cost, and more convenience. The word 'electronic voting' is characteristically used to describe the use of such electronic means of voting and to ensure protection, efficiency,

security and transparency. The wide spectrum of application of voting now includes its use in real-life student council assemblies, shareholder meetings, and the passage of parliamentary legislation. The online election production module is where the administrator (electorate chair) produces polling, records the posts and the candidate as well as the details of the electorate such as student guild, religious student leaders, members of the student class, and determines the start and end times of the vote. The elector casts the vote on a post he/she wants and the machine automatically adds the cast votes to the database and restricts the vote twice[10].

II. CONCLUSION & DISCUSSION

It fulfilled important features such as receipt-freeness, verifiability, authentication, and honesty, a graphical interface that is powerful and simple to use, saves money, time requirement. In addition, the integrated system will give voters the chance to cast their votes using the most convenient means of e-voting. Due to the ease of voting and its tendency to eradicate electoral fraud, the introduction of the integrated method increased the level of participation at the institution. Intensive computer simulations were conducted under various voting conditions, viz., to check the robustness and efficiency of the proposed method. Vote density, voter inter-arrival times, acts of malice introduced, etc. The results of the simulations suggest that the system's security and efficiency are in line with expectations. These findings include the proper reasons that would direct the decision-maker to tailor the framework proposed to meet his individual voting needs.

III. REFERENCES

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