Project Phase II Report

On

ONLINE VOTING SYSTEM

Submitted for the requirement of

Project course

BACHELOR OF ENGINEERING

COMPUTER SCIENCE & ENGINEERING

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CHANDIGARH UNIVERSITY, GHARUAN
June, 2022

ABSTRACT

The project's major goal is to create an online voting system that is both secure and user-friendly. In terms of safety and security, the voting issue remains a major concern. This system is concerned with the design and implementation of a web-based voting system that uses fingerprint and aadhaar cards to give high performance and security.

The planned Online Voting System allows voters to scan their fingerprints, which are then compared to images stored in a database collected from the government's Aadhaar card database. The voting mechanism is simplified because all users must log in using their Aadhaar card number and vote for their preferred candidates. The use of a biometric fingerprint provides sufficient security, reducing the number of dummy votes.

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INTRODUCTION

India is governed by a democratic government. As a result, every Indian citizen is now a part of the rapidly rising digital India. They have an Aadhar card, which is a digital ID. Voting systems have progressed from counting hands in the early days to paper, punch card, and electronic voting machines. An electronic voting system, which is now in use, has some characteristics that distinguish it from traditional voting techniques, as well as improved voting system qualities such as accuracy, convenience, flexibility, privacy, verifiability, and mobility.

However, electronic voting systems have a number of drawbacks, including being time consuming, consuming a large amount of paper work, providing no direct role for higher officials, causing machine damage due to lack of attention, and allowing users to update and edit multiple items at the same time. These disadvantages can be solved by using an online voting system. This is a voting mechanism that allows any voter to exercise his or her right to vote from anywhere in the country. Voters can vote in a very secure manner from anywhere in the country without having to go to a voting booth. As a result, voting becomes a risk-free activity, increasing voter turnout.

LITERATURE REVIEW

Wireless and web technologies are employed to make the voting process incredibly easy and efficient. The online-voting system offers the ability of capturing and counting votes in an election in a secure, simple, and safe manner.
The author utilizes adhaar id as a key of authentication in "online voting system based on adhaar id," and the system is efficient in terms of time and security. The method is an upgrade over the conventional system, but the main issue with it is authentication; the authentication approach utilized is ineffective because biometrics are not utilized.

The document "Secure Authentication for Online Voting System" discusses the votes' non-traceability and integrity. A smart card was used to prevent users from casting duplicate votes, and biometrics were utilized to authenticate voters. The author has proposed a smart card for biometric identification as well as a voter id card to be used when voting. They are employing smart cards and voter id cards during the election, which is not possible because those cards can be lost or stolen, so relying solely on cards is not a good idea. And the usage of several cards makes the system more expensive because each voter now requires these additional cards.

It may also take a decent amount of time to generate such a large number of cards. Despite the fact that all previous voting systems have met various features that a voting system may contain, the main problem one can find in these systems is that little "online" word; despite all the techniques they have used to make the systems robust, there is always the risk of malpractice when your system is online.

The author of "internet voting system driven by biometric security" used a combination of personal identity number, thumb impression, and secret key to authenticate the voter. For securely transferring data to the server and subsequently further verifying voters, techniques such as cover image creation and secret key expansion have been deployed. This method is quite reliable; it handles both authentication and security of voter data saved on the server. The fundamental issue with such systems is that, despite adopting numerous security mechanisms, they will be unable to handle the massive amounts of data that they may encounter during election periods while their system is online and they may have congestion when casting ballots.

Problem Definition

The current election system is operated manually. Voters must visit booths in order to vote for a candidate, resulting in time waste. The voter must personally enter their information into the Voter List. Additionally, vote counting must be done by hand. All of the voter or candidate's information must be entered manually. To vote, a voter must be present in his or her Constituency. Electronic voting machines are used, which adds to the cost.

The government's former voting system was a paper-based system in which voters simply pick up ballot sheets from electoral officials, mark who they want to vote for, and then cast their votes by simply delivering the ballot sheet back to the electoral official.

The following are some of the existing systems:

- Paper-based voting
- Direct recording electronic voting machine
- Punch card

Objective

As far as we can tell, the current method only allows for online voting. As we all know, the Indian government has multiple elections. As a result, we're putting in place a mechanism that allows voters to choose an election and submit their vote by region/ward. After reviewing the current system, we discovered that it does not allow for voting by state or region. Thus, voting is tough since there are no restrictions, so a voter can vote for a candidate who does not live in his or her neighborhood. We suggest a system in which a voter can vote solely for candidates within his or her region/ward. Only those candidates who are residents of that particular voting ward will be displayed.

SCOPE

- Increasing number of voters as individuals will find it easier and more convenient to vote.
- Less effort and less labor intensive, as the primary cost and focus primary on creating, managing, and running a secure web voting portal.
- The system can be used anytime and from anywhere by the Voters.
- No one can cast votes on behalf of others and multiple times.
- Saves time and reduces human intervention.
- The system is flexible and secured to be used.
- Unique Identification of voter through Aadhar number.
- Improves voting with friendly Interface.
- No fraud vote can be submitted.

CONCLUSION

The advantages of online voting systems over traditional voting systems are numerous. Less expense, faster generation results, easier accessibility, precision, and a reduced chance of human and mechanical errors are just a few of the benefits. It is quite difficult to create an online voting system that provides high levels of security and anonymity. Future development will be focused on creating a system that is simple to use and provides adequate security and privacy for votes through proper authentication and processing. It is simple to operate and takes minimal time. It's extremely simple to troubleshoot.