# ONLINE VOTING SYSTEM

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**Chapter : 1**

Abstract

The project is mainly aimed at providing a secured and user friendly Online Voting System. The problem of voting is still critical in terms of safety and security. This system deals with the design and development of a web based voting system using fingerprint and adhar card in order to provide a high performance with high security to the voting system. The proposed Online Voting System allows the voters to scan their fingerprint, which is then matched with an already saved image within a database that is retrieved from adhar card database of the government. The voting system is managed in a simpler way as all the users must login by adhar card number and click on his/her favorable candidates to cast the vote By using biometric fingerprint it provides enough security which reduces the dummy votes.

**Chapter : 2**

**Motivation**

Nowadays, there are tons of things we do online, from shopping to doing any kind of official arrangement. And you may think, why not voting online too? Whether you are part of a small, medium or large organization, you may have thought at some point about the reasons to choose online voting and

how it could benefit your entity. Here I give you five reasons why online voting could be a good option for you:

- Vote at any time from anywhere: Today's way of living doesn't leave much free time. We have little to no time to do anything or go anywhere. So don't you think that maybe giving the chance to the members of your organization to cast their vote in just a few minutes, without the need to go to a certain place, would be a good option? If your answer is "yes", then you should probably consider online voting. Unlike traditional voting, that makes voters go to a specific place at a specific time in order to vote, online voting allows them to cast their vote at any time of the day and from any place, just with the need of an Internet connection.
- Boost participation: As a result of the previous point, choosing online voting for your election will more likely boost the participation. You will give the chance to members that otherwise may not be able to vote. At this point, you might be thinking "what about the people that for any reason can't vote online, wouldn't we lose their participation then?". I have good news for you: running an electoral process online does not mean that you have to discard traditional voting. This is not one thing or the other. Depending on the provider of the online voting system you choose, a hybrid election might be possible. With a hybrid voting, you will be able to let voters participate in the election by either of the two ways, traditional or online. In this type of voting a complex method avoids voters to vote more than once, just like in the all traditional or all online methods.
- Less physical infrastructure: When running a voting online, you avoid the need for all the physical infrastructure usually required on a traditional voting. No need of paper, printing, physical urns or staff may, therefore, lead to a lower monetary investment.
- More rich ballots: With the power of linking, image rendering and so on, online voting gives you the chance to add additional information to the ballots that would not be possible on the traditional ones. You can, for example, link to videos of the different candidates on a presidential election, show images of the different visual candidates on a graphic design contest, or link to articles concerning detailed information about where a budget will be spent on a general budget voting. These are just a few examples, but imagine all you could do with online voting to make your ballots richer.

**Chapter : 3**

**Literature Survey related to Online Voting System**

| | **Paper Title** | **Authors** | **Year** | **Name of Publisher** | **Technology** | |
|---|---|---|---|---|---|---|
| 1 | **"EVoting System using Hyperledger Sawtooth"** | Vivek S K, Yashank R S, Yashas Prashanth, Y. N, N. M | 2020 | IEEE | Angular 8, Node.js, Amazon RDS, and Sawtooth blockchain, Python with the APIs, Docker technology, Amazon Web Services (AWS) | |
| 2 | Electronic Voting Mechanism using Microcontroller ATmega328P with Face Recognition" | Shubham Gupta, Divanshu Jain, Milind Thomas Themali | 2021 | IEEE | PyCharm, JetBrains IDE using Python, IoT, ThingSpeak, Open Source Computer Vision Library OpenCV, Arduino. | |
| 3 | "Electronic Voting based on Virtual ID of Aadhar using Blockchain | Roopak T M, Dr. R Sumathi | 2020 | IJSDR | Blockchain Technology | |

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|---|---|---|---|---|---|---|
| | Technology" | | | | | |
| 4 | Smart Online Voting System | Ganesh Prabhu S, et.al | 2021 | IEEE | Arduino Uno, LCD Display, RFID, Push Button | |
| 5 | Electronic Voting: Algorithmic and Implementation Issues | Robert Kofler, et.al | 2003 | IEEE | Electronic Voting, Electronic Democracy, Internet Applications | |

**Chapter : 4**

**Literature review**

From the time it takes to the current technological development, there are online voting systems. That was clarified in this document. Develop voting plans to make more efficient voting services avalable with ICT resources than traditional paper-based voting methods. Voters regard themselves as consumers and it is expected that the government will make the voting business more convenient. In the past decade, various forms of electronic voting, especially as additional methods of voting for remote voting, political parties, candidates, the electoral administration, and most importantly to improve the efficiency and promise of the democratic process to the electorate have attracted considerable attention.

It allows voters to access the public algorithm and parameters to confirm their turnout.

Three types of voting systems exist:

1. System of paper voting

   The paper voting system is the most common system for voting. Before the electronic voting system is implemented, it will be used. The system of paper ballet includes

paper and sealed ballet. Each voter uses and does not share one ballot. This system's disadvantages are i) the time it takes;

ii) the speed is low.[16]

2. Electronic voting system

Electronic voting systems are electronic voting devices. A voting machine that uses an electronic voting machine to allow voters to pass on their secret ballots. The inconvenience is I poor computer science individuals cannot vote correctly, (ii) safety threats sensitive, (iii) electricity consumption at polling stations; and (iv) costs.

3. Online voting system

A new platform for secure votes and voting is the online voting system. Online voting systems are a web-based voting system, which transmits votes via a web browser over the internet. Voters from all over the world are eligible to vote online.

Security issues arising from online voting are as follows: In general applications, password protection is high and phishing attacks are not the focus of the application. Website users are not protected efficiently from phishing.

The key proposal for ensuring a secure online polling protocol to meet privacy, anonymity, eligibility, equity, verification, and unique online voting safety requirements

To achieve reliability, eligibility, transparency, accuracy, and uniqueness of the e-vote system, two milliardaires couples have created secure online voting for identities based on cryptographic algorithms.

A secure, end-to-end verifiable, Identity-based blind signature Internet voting system: IEEE, newspapers, 2020; This document has been amended Early vote, elliptical curve cryptography, verifiable end-to-end digital signature, Internet vote system. Batch venerability. Functional digital signature used by the BLS short signature system to protect voting against any changes anonymously to issue a blank ballot to voters. Future of voting: Specifications and feasibility study of verifiable Internet vote from end to end.

Phish-haven-An Efficiency Real-Time AI Phishing URLs Detection System: IEEE, newspapers, 2020; This article changed phishing URLs generated by AI, machine learning, phishing URLs created by

people, lexical features, multi- threads, HTML URL encoding. Extracts web pagecontent which is therefore ineffective in computation. Non- proactive method Needs source codes or the website's entire website content. The use of multiple threading technologies on an input unit and output unit may be further enhanced by the incorporation of unattended learning.

SeVEP: Electronic polling system secure and verifiable: 2019 IEEE, journals, Authentication modified, efficiency, electronic polling, malware, security, compliance. Authentication, electronic polling process has resource allocation polling system. Developing a working SeVEP prototype and assessing its scalability and usability for real-world use.[13]

Towards Developing a Secure and Robust Solution for E-Voting using Block-chain: 2019 IEEE, Spring, This paper modified coercion resistance problem, Blockchain, Online Voting process, Developing a Secure Solution for online Election process information and To solve coercion resistance problem to solve using cryptographic algorithms.[18]

End to End Verifiable Electronic Voting System for Shareholders: IEEE 2019, newspaper, this article amended Electronic vote, voting by shareholders, verification end-to- end, zero evidence of knowledge, Decision Diffuse the assumption by Hellman, safety evidence and verifiable electoral process. More generally, voters can leave and

leave dynamically within calculation periods if using a smartphone.

Secure Online Voting System Using VC: 2018 IEEE, Spring, this paper modified and using Visual cryptography, security share, voting system. Secure a voting process for using Cryptography task scenario and Improvement in an existing algorithm.

A Scheme for Three-Way Secure and Verifiable E-Voting: 2019 IEEE, journal, This paper modified and using Electronic Voting, Anonymity, Verifiability, and Paillier Cryptosystem, Homomorphic Encryption process on the distributed implementation of Three way Secure and Verifiable Election process.[21]

The Security Issues of The Online Voting System: While inheritance of such items in the source code is not acceptable, the root of the security problems which have occurred have not only been attributed to outsiders (for example voters and attackers) but also to insiders (for example program developers and administrators). These mistakes caused a vote system crash.

The solutions suggested for stopping these attacks have therefore been outlined. To prevent hackers from getting into the voting system over a network we can, for example, develop our system to transmit data without a network. Another example is to limit voting to unique input data to prevent command injection.

**Chapter : 5**

**Problem formulation/Objectives**

1. Develop an web based voting system to be used in CSE departments or other departments.
2. Must be Database driven in order to keep track of voters.
3. Administrator and user level access.
4. Firmly understand web technology such as CGI,SQL and Perl.

**Chapter : 6**

**Methodology/ Planning of work**

EXISTING SYSTEM :

The existing system is where the people have their voter id are eligible to vote. There will be a electronic voting machine(EVM) and a vvpat where we must select our party by pressing the button and check using the slip generated in vvpat . There will be time allotted to enter your vote. After that you will not be able to vote. People used to stand in large line and cast their vote .They will be inked in their finger(left index) to know about voter status of voted or not. To implement these government need to make a lot of duties like creating polling stations and assigning personnel to each poll stations.

PROPOSED SYSTEM:

The online voting system is for the citizens from all over India that consists of the data and information.

1. The database of the Voter's information and details.
2. Voter's Id.
3. Calculation of total votes .
4. Checking information by the voter.
5. Remove wrong information.
6. The information immediately transfers to Election Commission.

**Chapter : 7**

**Facilities required for proposed work**

(Software/Hardware required for the development of the project.)

HARDWARE REQUIREMENTS:

- System : Pentium i5 Processor
- Hard Disk : 500 GB.
- Monitor : 14'' LED
- Input Devices : Keyboard, Mouse
- Ram : 2 GB

SOFTWARE REQUIREMENTS:

- Operating system : Windows 11.
- Coding Language : Python
- Tool : PYCHARM
- Database : MYSQL

**Chapter : 8**

**Bibliography/References**

[1]. EVoting System using Hyperledger Sawtooth.

[2]. Electronic Voting Mechanism using Microcontroller ATmega328P with Face Recognition.

[3]. Electronic Voting based on Virtual ID of Aadhar using Blockchain Technology.

[4]. Smart Online Voting System.

[5]. Electronic Voting: Algorithmic and Implementation Issues.