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# Online Voting System

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**Abstract -** The Android-Based online Voting System is a mobile application designed to make the voting process easier, faster and more flexible for users. Voting is a important process in any organization, collage because it allows people to express their opinions and choose their leaders. The Android-based Online Voting System provides a digital platform that enables users to be voting their smartphones from anywhere at any time. The system is designed to be simple and user-friendly so that anyone with basic smartphone knowledge can use it without difficulty. All votes are securely stored in a database. One of the key features of the system is automatic vote counting, which eliminates the need for manual counting and provides accurate results quickly. The android Online Voting System reduces costs because it does not require EVM machine, setting up polling stations, or hiring staff. It is also environment friendly because it reduces paper usage. Overall, the Android-based Online Voting System provides a modern and efficient solution to improve traditional voting processes. It makes voting faster and more secure, while ensuring accuracy and transparency. By allowing voters to vote digitally using their mobile phones.

**Keywords:** Android-Based, Digital Platform, Environment Friendly, User Friendly.

## 1. INTRODUCTION

Voting is one of the most important parts of a democracy. It allows people to choose their leaders and have a say in how their country, state, school and organization is run. In many places voting is still done using paper ballots or through EVM machine. While this method has been used for many year secure. It also takes a lot of time to count voters, and mistakes can happen. In today's world, where technology is used in almost every part of life, it makes sense to improve the voting process using modern tools. That is why we have created an Online Voting System. This system allows people to vote through the internet in a simple, safe, and fast way. It is especially useful in situations like elections, small organizations, or even local government elections, where managing a physical voting system can be difficult. Our Online Voting System is a android application that allows registered users to log in with their Aadhar number and password, see the list of candidates, and vote for the one they support. After voting, the system stores the vote safely and ensures that the same person cannot vote again. The voted are then counted automatically, and the results can be seen quickly after the voting ends. For security, the system protects the information using encryption and ensures that no one can change the results or see who voted for whom.

## 2. BODY OF PAPER

### 1. Literature survey :

**Paper 1: Design and Implementation of a Secure Online Voting System:** This paper focuses on the development of a secure and reliable online voting system that guarantees voter privacy and prevents fraud activities. The System uses cryptographic techniques such as Public Key Infrastructure (PKI) and Digital Signatures to ensure secure authentication and vote transmission.

**Paper 2: Blockchain-Based Online Voting System foe secure and Transparent Elections:** This research explores the use of Blockchain technology to enhance the transparency, security, and immutability of online voting systems. The paper highlights the benefits of decentralized voting mechanisms, where each vote is recorded on a blockchain to ensure that it cannot be altered or deleted after submission. It discusses various consensus algorithms and smart contracts to facilitate secure vote counting and authentication.

**Paper 3: An Efficient Web-Based Online Voting System :**This paper explains a web-based voting system that can be accessed through browsers. It includes system

features, user interface, and performance. The paper highlights how online voting saves time and reduces manual work. This paper focuses on keeping voter data safe and private. It includes information about authentication, data encryption, and preventing unauthorized access. The paper also explains possible risks and how to reduce them.

**Paper 4: A Privacy-Preserving Online Voting system Using Holomorphic Encryption :** This paper presents a privacy-preserving online voting system that utilizes homomorphic Encryption, allowing votes to be encrypted in such a way that they can be counted without decrypting them. This ensures that voter choices remain confidential throughout the entire process. The authors demonstrate how this system maintains both security and privacy while preventing potential threats like vote manipulation or identity leakage.

**Paper 5: Online Voting System: A secure and Efficient Approach to Electoral Processes:** This research paper looks at how online voting systems can be used as a modern way to run elections. It discusses important challenges like security, risks, trust issues, and the technology needed to make it work. The study uses a mix of methods: analysing how online voting works in countries like Estonia and Switzerland and collecting survey responses from 500 people. The results show that technologies like blockchain and multifactor authentication can make online voting more secure, but people are still worried about hacking and whether the system is fully transparent. The paper ends with suggestions for making online voting safe, including strong encryption, independent how elections can be modernized while keeping them fair trustworthy.

**Paper 6: An Ambitious Approach to smart Internet Voting System:** In this "Online Voting System" the voter cast their vote using electronically through the anything connected to an internet device. Online Voting System it overcomes these issues and help in providing timely and fast voting services. This paper proposed a voting system provides a high security and using proper authentication method.

## 2. Problem statement:

Voting is a very important process in any democratic system. However, the traditional voting system faces many difficulties. Voters often need to stand in long queues at polling stations, which consumes a lot of time and effort. Many people are unable to vote due to distance, health problems, or work commitments, which leads to a decrease in voter participation. Traditional voting also requires a large amount of manpower and resources to conduct elections. Another major problem with the traditional voting system is the possibility of human errors and vote tampering during voting and counting.

These issues can affect the transparency and fairness of the election process. To overcome these problems, an Online Voting System can be used to allow voters to cast their votes electronically from any location. Although Online Voting Systems provide many advantages, they still face challenges related to security, privacy, and trust. Therefore, there is a need to design and develop a secure, reliable, and user-friendly Online Voting System that ensures fair elections and increases voter participation.

## 3. Objectives:

- To provide real-time, automated vote counting and instant result publication, reducing human error and long waiting periods.
- To secure sensitive voter data and ballot information through encryption techniques like public-key hashing.
- To develop an intuitive and simple GUI that allows voters of all technical backgrounds to navigate the process easily.
- To reduce the high expenditure and manpower required for traditional paper-based or booth-based elections

## 4. Results:

The Online Voting System provided accurate and fast election results with minimal human intervention. The system successfully allows registered users to cast their vote securely and ensures that each voter can vote only once. Automatic vote counting eliminates manual errors and delays, resulting in reliable outcomes. One of the major results of this project is increased efficiency in the voting process. The system reduces the time required for voting and result declaration. Voters can vote from any location, which increases participation and convenience. Overall, the results show that the Online Voting System is an effective alternative to traditional voting.

## 3. CONCLUSIONS

The Online Voting System has a ability to improve the election process by making it easier, faster, and more secure than the traditional EVM based voting method. In those elections, voters often face many difficulties such as

standing in long queues, filling out physical forms, and depending on manual vote counting. As a result, the system helps make the democratic process more inclusive and accessible. Security and fairness are key points in any election, and this system addresses them through features such as secure user login, password authentication, and data encryption. These mechanisms help ensure that only authorized and registered voters are allowed to vote and that each voter can cast only one vote. By protecting voter data and preventing unauthorized access, the system reduces the risk of fraud, cheating, or manipulation. Overall, this project proves that technology can play a vital role in the election process in digital era. It highlights how online voting can make elections, or efficient, transparent, and flexible.

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