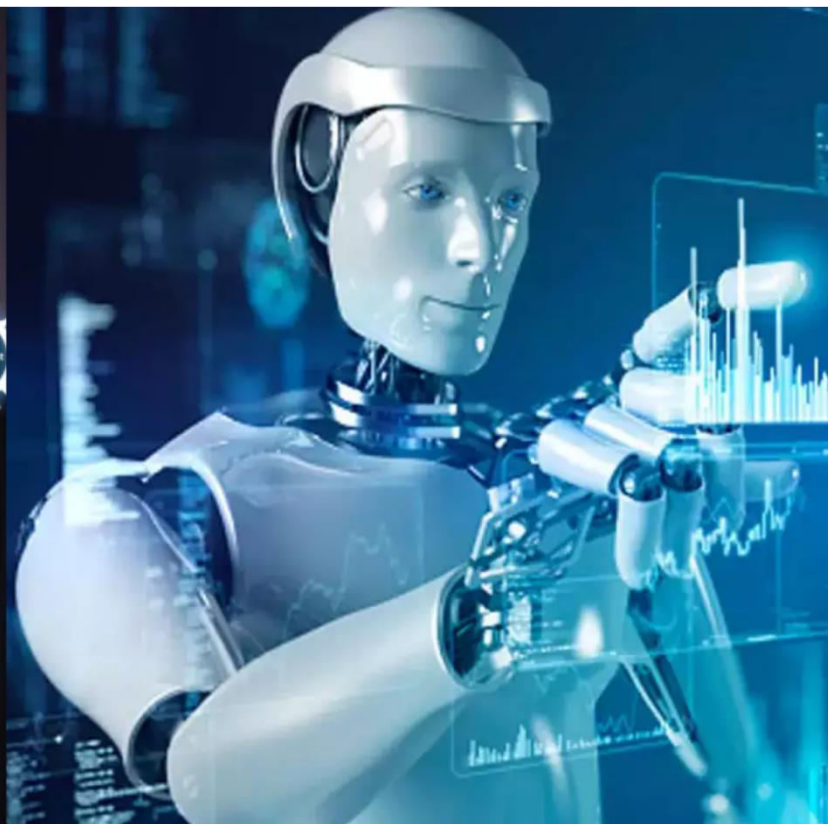




International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.699

Volume 14, Issue 11, November 2025

Online Voting System

Lokesh Narendra Gudur¹, Umar Ibrahim Pathan², Suyash Sanjay Landage³,

Shivam Vijay Kumbhar⁴, S.N. Shendge⁵

U.G.Student, Department of Computer Science and Engineering, VVPIET, Solapur, Maharashtra, India¹

U.G.Student, Department of Computer Science and Engineering, VVPIET, Solapur, Maharashtra, India²

U.G.Student, Department of Computer Science and Engineering, VVPIET, Solapur, Maharashtra, India³

U.G.Student, Department of Computer Science and Engineering, VVPIET, Solapur, Maharashtra, India⁴

Assistant Professor, Department of Computer Science and Engineering, VVPIET, Solapur, Maharashtra, India⁵

ABSTRACT: Online voting is an emerging digital approach that allows citizens to participate in elections using the internet instead of visiting a polling booth. It makes the entire voting process faster, simpler, and more comfortable for a wide range of users. The system helps increase voter participation by allowing people to cast their vote from any location, especially benefiting those who cannot travel on election day. It includes important features such as secure login, voter verification, ballot display, and encrypted vote submission to protect privacy. Researchers note that online voting can reduce human errors and speeds up the counting process, leading to quicker and more accurate results. This technology is useful for people in remote areas, elderly individuals, students, and working professionals. Strong security methods such as encryption and authentication help safeguard voter data from cyber threats. The use of online voting is not limited to government elections but is also applied in schools, colleges, companies, clubs, and online communities. The system often provides clear instructions, notifications, and help options to support all types of users. Studies also show that a clean and user-friendly interface increases trust and makes the voting process easier to understand. Although challenges like internet problems and hacking risks remain, regular updates and careful testing can make the system safe and dependable. With ongoing improvements in technology, online voting continues to advance in security, speed, and accessibility. Overall, it offers a modern, transparent, and efficient method for conducting secure and convenient elections in different environments.

KEYWORDS: Authentication, remote voting, security, voter identification, user friendly.

I. INTRODUCTION

An online voting system is a digital method that allows people to cast their vote using the internet instead of visiting a physical polling station. It is designed to make the voting process faster, easier, and more comfortable for citizens. The system provides a secure way for voters to log in, view candidates, and submit their choices from computers or mobile devices. This type of voting is especially helpful for people who live in remote areas, elderly citizens, students, and workers who cannot travel on election day. Many countries and organizations are exploring online voting because it can reduce long queues, save paper, and lower the overall cost of conducting elections. The system also offers features like voter registration, identity verification, ballot display, and instant result generation. With proper security methods, online voting can protect sensitive data and ensure that each vote is counted correctly. The application of online voting is not only limited to government elections but also used in colleges, companies, clubs, and online communities for selecting leaders or making group decisions. It can improve participation by allowing users to vote anytime within the voting period. The platform can also provide notifications, guides, and help sections to support new users. Many studies show that when voters understand how the system works, they feel more confident using it. Online voting systems continue to improve as technology advances, adding better security and user-friendly designs. Although challenges like internet issues or cyberattacks exist, regular testing and updates can make the system reliable. Overall, the introduction of online voting brings a modern and convenient approach to conducting fair and transparent elections.

II. LITERATURE SURVEY

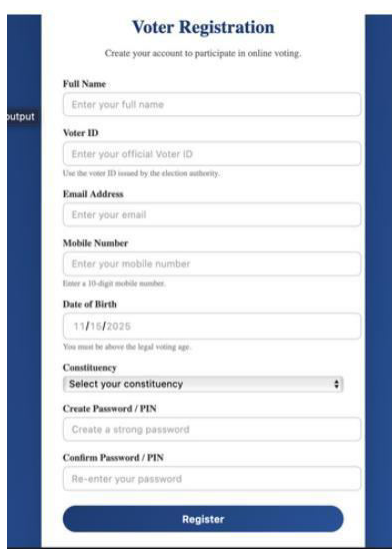
The online voting system has been widely discussed in research as a modern way to improve the election process. Many studies explain that online voting can save time, reduce manual mistakes, and make voting easier for people who live far from polling stations. Early research focused on creating simple digital platforms that could replace paper voting with basic computer interfaces. Later studies began to look at stronger security methods to protect voter data and prevent hacking. Researchers have also explored authentication methods like passwords, OTPs, and biometrics to make sure only real voters can cast their vote. Some papers highlight that online voting can help elderly people, disabled users, and overseas citizens participate more easily. Other studies compare online voting with traditional systems and show that digital voting can give faster and more accurate results. Many researchers also talk about transparency, explaining that the system must clearly show how votes are counted without exposing voter identity. Recent work highlights challenges such as cybersecurity risks, internet issues, and lack of trust among some voters. Overall, the literature suggests that online voting is promising but needs strong security, careful design, and public awareness for successful use in real elections.

III. METHODOLOGY

The development of an online voting system starts by identifying functional and security requirements based on election rules and user expectations. A system architecture is designed that separates voter registration, authentication, ballot handling, vote casting, and result management into secure modules. Strong authentication methods such as OTP, passwords, or biometrics are integrated to verify voter identity before granting access. The voting interface is created with a simple and intuitive layout to ensure smooth participation for all users. Encryption algorithms are applied to protect vote data during storage and transmission, ensuring confidentiality and integrity. A structured database is built to maintain voter records, encrypted ballots, and system logs. Modular coding practices are used to implement core functionalities, making the system scalable and easier to maintain. Multiple testing phases, including functionality, performance, and security testing, are carried out to detect errors and vulnerabilities. A trial run is conducted with sample users to evaluate usability and system stability under realistic conditions. Final adjustments are made based on testing feedback, and the system is readied for deployment with proper monitoring and documentation, using HTML and CSS our expected outcomes are displayed.

IV. OUR EXPECTED OUTCOME

Figure 1.



Voter Registration
Create your account to participate in online voting.

Full Name

Voter ID

Email Address

Mobile Number

Date of Birth

Constituency

Create Password / PIN

Confirm Password / PIN

Register

Figure 2.



Voter Login
Login to cast your vote securely.

Voter ID / Email

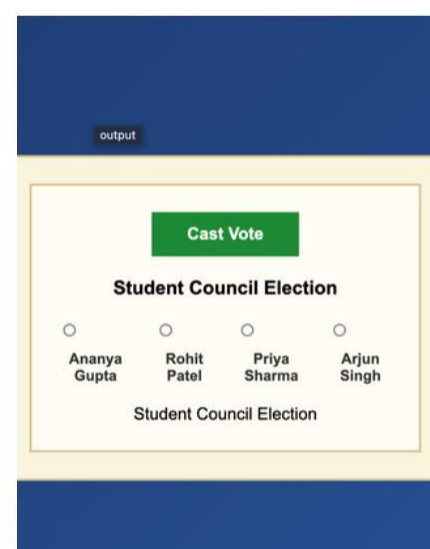
Password / PIN

Login as

Login

Don't have an account? [Register as a new voter](#)

Figure 3.



Cast Vote

Student Council Election

☐ Ananya Gupta

☐ Rohit Patel

☐ Priya Sharma

☐ Arjun Singh

Student Council Election

V. CONCLUSION

In conclusion, an online voting system can greatly improve the way elections are conducted by making the process faster and more convenient. It allows people to vote from anywhere, which can increase participation, especially for those who cannot visit polling stations. Strong security methods, such as encryption and verification, help protect voter data and keep votes confidential. A clear and simple interface also makes the system easy for everyone to use. Although challenges like cyberattacks and technical errors exist, they can be reduced with proper testing and regular updates. Reliable internet access and strong system design are important for smooth operation. Governments and institutions need proper rules to ensure fairness and trust in digital voting. Studies show that transparency features help build confidence among voters. With careful planning and monitoring, online voting can become a secure choice for modern elections. Overall, it provides a promising and efficient solution for future voting needs.

REFERENCES

1. kannammal, R. B., & Monisha, M. (2017). An Online Voting System Using Biometric Fingerprint and Aadhaar Card Authentication. IJARCS, 8(5), 450–456.
2. Patel, S., & Jha, R. (2017). Online Voting System Using OTP and Aadhaar Verification. IJIRCCE, 5(3), 4479–4485.
3. Gokhale, P., Mahale, A., Kedar, S., & Gharat, R. (2017). Online Voting System Using Facial Recognition. IRJET, 4(1), 239–242.
4. CRS Report (2020). Remote and online voting trends during COVID-19. Congressional Research Service.
5. Dhakne, S. R., & Deshmukh, K. R. (2013). Design of Online Voting System Using PHP and MySQL. IJCET, 4(3), 101–108.



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 9940 572 462  6381 907 438  ijirset@gmail.com



www.ijirset.com

Scan to save the contact details