

REVOLUTIONIZING VOTING: A SMART VOTING MACHINE WITH ONLINE VOTING CAPABILITY



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GitHub Repository

ABSTRACT

Smart voting machines are an advanced form of electronic voting machines (EVMs) with additional features and technologies to enhance the accuracy, security, and efficiency of the voting process. We used biometric technology to capture unique physical features to design a reliable and secure voting system. We also tried integrated Blockchain voting (crypto-voting).

METHODOLOGY

- Authentication:** The voter is authenticated using biometric identification (like fingerprint scanner), or other secure (such as a camera) means to ensure that only eligible voters can cast their votes.
- Candidate selection:** The voter selects the candidates of their choice using a button, or other input devices.
- Vote recording:** The smart voting machine records the voter's selections and stores them securely in the machine's memory.
- Confirmation:** Once the voting is complete, the machine confirms with beep sound after the vote and display their voting information

BENEFITS

- Increased security:** It has more advanced security features than conventional EVMs, such as encryption, Biometric authentication, and auditing capabilities. This makes them more resistant to tampering, hacking, or other forms of fraud.
- Improved accessibility:** With integrated online voting capabilities, it provides a more inclusive and accessible voting process.
- Real-time monitoring:** With real-time monitoring and analysis of voting patterns, enabling election officials to detect and respond to any irregularities or anomalies quickly.
- Easier to use:** With visual and audio responses it typically has more user-friendly interfaces and instructions than conventional EVMs, reducing the likelihood of errors or confusion among voters.

RESULT



TOOLS USED



FUTURE SCOPE

- Use of AI (artificial-intelligence)** to predict election outcomes with greater accuracy.
- Blockchain-based Voting** to create a more secure and transparent voting process.
- Accessibility features** such as voice and visual assistance for voters with disabilities.
- Improve security** using Iris recognition and other Biometrics.

REFERENCES

Raspberry Pi Documentation
OpenCV: OpenCV modules
Django (djangoproject.com)

CONCLUSION

The voting process can be greatly enhanced by integrating electronic voting machines and internet voting platforms. In addition to being simple to use, smart voting machines offer strong security, accuracy, and monitoring functions. In contrast, online voting systems provide convenient remote voting that could increase voter turnout. The choice of system depends on the unique needs and limitations of the election. A hybrid approach that combines both systems could be the most suitable option for future elections.