ABSTRACT

Democracy and voting are foundational pillars of a free and just society. Even in the world's largest democracies such as India, the US, and Japan, there persist flaws within the legal framework. Issues like voter rigging, hacking of EVMs, election manipulation, and booth capturing are prevalent challenges in the current electoral systems. The proposed solution involves the implementation of an E-voting model, aimed at mitigating these electoral problems and enhancing the integrity of the voting process. "E-voting using blockchain" is a comprehensive project aimed at revolutionizing the electoral process through secure and transparent electronic voting systems. Leveraging blockchain technology, the project ensures integrity, anonymity, and verifiability in the voting process. The system incorporates modules for voter registration, admin, real-time voting and blockchain-based data encryption, voter verification, candidate eligibility checks, and vote tallying. Through the integration of elliptic curve cryptography and advanced encryption standards, voter privacy and data integrity are maintained. The project facilitates efficient management of voter and candidate lists, real-time vote updates, and transparent result dissemination. With a focus on enhancing trust in democratic processes, "E-voting using blockchain" offers a robust, resilient, and user-friendly platform for modernizing elections while upholding democratic principles.