

DEFINE PROBLEM

Date	20 October 2023
Team ID	NM2023TMID02239
Project Name	Electronic Voting System
Maximum Mark	4 Marks

SPECIFY THE BUSINESS PROBLEM

The electronic voting system faces a critical business problem rooted in the vulnerability of its cybersecurity infrastructure. As technology advances, so do the sophistication and frequency of cyber threats. The integrity and security of the voting process are paramount, and any compromise could undermine the foundation of democracy. Instances of hacking, data breaches, or manipulation pose a severe risk to the credibility of election outcomes, eroding public trust in the electoral system. Addressing this challenge requires a multifaceted approach that combines robust cybersecurity measures, regular system audits, and continuous innovation to stay ahead of evolving cyber threats. The electronic voting system must navigate the delicate balance between accessibility and security to ensure the democratic process remains transparent, reliable, and free from external interference.

Beyond cybersecurity concerns, the electronic voting system also grapples with issues related to accessibility, inclusivity, and public perception. The digital divide can disenfranchise certain segments of the population, as not everyone has equal access to technology or the necessary digital literacy. This raises questions about the fairness and inclusivity of the voting process. Moreover, the system must contend with the challenge of ensuring anonymity and privacy for voters in a digital environment, addressing fears of surveillance or coercion.

BUSINESS REQUIREMENTS

The business requirements for the electronic voting system encompass a comprehensive set of criteria to ensure its effectiveness, integrity, and inclusivity. Firstly, the system must prioritize robust cybersecurity measures to safeguard against external threats and ensure the confidentiality, integrity, and availability of voting data. Accessibility is paramount,

demanding user-friendly interfaces, and compatibility with diverse devices to accommodate voters of varying technological proficiencies. Inclusivity mandates addressing the digital divide, implementing measures to assist individuals with disabilities, and providing multi-language support. The system should guarantee anonymity and privacy, utilizing encryption and secure authentication protocols. A transparent and auditable process is essential, necessitating the creation of a verifiable digital trail and mechanisms for post-election auditing. Continuous innovation, adaptability to evolving technologies, and scalability to accommodate growing voter populations are also integral components. Ultimately, these requirements aim to establish a reliable, secure, and accessible electronic voting system that upholds the democratic principles of fairness, transparency, and equal representation.

SOCIAL OR BUSINESS IMPACT

The implementation of an electronic voting system carries significant social and business impact. On the social front, it promises increased accessibility, potentially amplifying voter turnout by providing a more convenient and flexible means of participation. This inclusivity fosters a more representative democracy, ensuring that a broader spectrum of voices is heard in the political process. Moreover, the transparency and verifiability features of electronic voting can enhance public trust in the electoral system, strengthening the foundation of democratic institutions

From a business perspective, the electronic voting system opens opportunities for innovation and technological advancements in the election industry. It can lead to the development of cutting-edge solutions, driving growth in the technology sector. However, the business impact also hinges on addressing challenges such as cybersecurity risks, ensuring the reliability of the system, and navigating regulatory frameworks. Successfully overcoming these hurdles not only strengthens the business viability of electronic voting solutions but also contributes to the evolution of secure and efficient electoral processes globally. Overall, the social and business impact of the electronic voting system underscores its potential to shape the future of democratic practices while driving advancements in technology and governance.

LITERATURE SURVEY

The literature surrounding electronic voting systems reveals a diverse range of perspectives and insights, reflecting both the promises and challenges associated with this

evolving technology. Proponents highlight the potential for increased efficiency, accessibility, and accuracy in the electoral process. Studies indicate that electronic voting can streamline the voting experience, potentially reducing long queues and enhancing overall efficiency in vote counting and result tabulation.

However, a substantial body of literature also underscores the critical importance of addressing cybersecurity concerns to maintain the integrity of the electoral system. Researchers emphasize the need for robust security measures to safeguard against hacking, data breaches, and manipulation. Additionally, discussions often revolve around the potential impact of electronic voting on voter trust and confidence in the democratic process, with calls for transparency, auditability, and public awareness.

The literature survey further delves into the challenges related to the digital divide, emphasizing the necessity of ensuring equal access and inclusivity. Researchers explore the socio-economic implications of technology-driven disparities in voting accessibility.

Overall, the literature on electronic voting systems presents a nuanced understanding of the opportunities and challenges posed by this technology, offering valuable insights for policymakers, technologists, and stakeholders seeking to navigate the path toward more efficient, secure, and inclusive electoral processes.