Online Voting System Using Web Development

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Abstract: *Elections are an essential part of Democracy, but Traditional paper-based voting systems can be slow, costly, and prone to errors. This paper presents the design and development of an Online Voting System (OVS) using web technologies to make voting more convenient, secure, and efficient. The system allows registered voters to cast their votes online through a user-friendly web interface, while ensuring privacy and security. Administrators can manage elections, candidates, and voter information, while the system automatically verifies voter identity and prevents multiple voting. The database securely stores votes and generates real-time results, reducing the time and effort needed for counting. This web-based approach also minimizes human errors, lowers operational costs, and allows voters to participate from any location. The paper discusses the implementation of security measures such as password authentication, role-based access control, and data encryption to protect against fraud and unauthorized access. Challenges like cybersecurity threats and voter privacy are considered, with suggested solutions to make the system more reliable. The results show that an online voting system can improve efficiency, transparency, and accessibility compared to traditional methods. This study provides a simple and scalable framework for implementing secure online elections in educational institutions, organizations, and small-scale government elections.*

Keywords: *Online Voting System, Web Application, Security, Authentication, E-Voting*

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