The E-Voting System Project Summary

The E-Voting System was a full-stack application designed to simulate a secure digital voting platform, built with both front-end and back-end components to replicate a real-world election process in a modern digital format. The primary goal of this project was to provide a user-friendly interface for voters to cast their votes securely while maintaining the integrity and confidentiality of the election process. The front-end was developed using standard web technologies like HTML, CSS, and JavaScript, ensuring a responsive and intuitive user experience across devices. Each candidate and position was clearly displayed, allowing voters to select their choices with a single click. The back-end was handled using either PHP with MySQL or Python (depending on version), which managed data processing, secure vote storage, authentication, and access control. We implemented a simple login mechanism for administrators and a result dashboard to display real-time vote counts. Voter validation was simulated through user IDs or mock registration credentials, ensuring that only authorized users could access the voting page. One of the biggest technical focuses was preventing multiple submissions from a single user, mimicking real-world constraints of one-person-one-vote. We also ensured that results were only viewable by administrators and not publicly tampered with. Throughout development, the project emphasized modularity, session handling, database design, and form validation. Although built as a prototype, the system reflects key considerations in secure voting technology, such as transparency, accessibility, and voter trust. This project not only sharpened our skills in web development and server-side programming but also highlighted the critical ethical and technical challenges in designing fair digital election systems — especially relevant in the context of Sri Lanka's future e-governance goals.