Project Design Phase-I
Solution Architecture

Date	19 October 2023
Project Name	Electronic Voting System

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.

- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.

- Define features, development phases, and solution requirements.

- Provide specifications according to which the solution is defined, managed, and delivered.

Solution Architecture diagram for Electronic Voting System
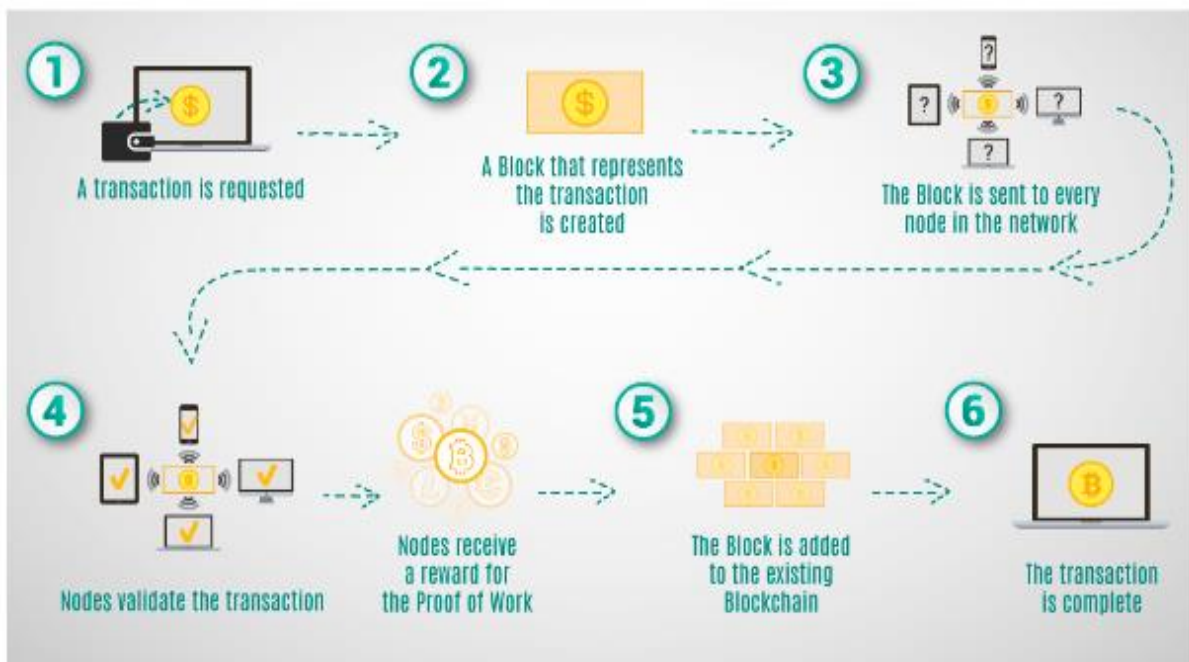
You're absolutely correct that electronic voting systems on a blockchain have the potential to address many of the issues associated with traditional voting systems. Here are some key advantages and concepts related to using blockchain for electronic voting:

Transparency and Immutability:

Blockchain is a distributed ledger technology where every transaction is recorded in a tamper-resistant manner. Once a vote is recordedon the blockchain, it cannot be altered or deleted. This ensures the integrity of the voting process**.**

Security:

Blockchain uses cryptographic techniques to secure data. Votes are encrypted and stored in a decentralized network of nodes, making it extremely difficult for malicious actors to manipulate or hack the system**.**

Decentralization:

Unlike traditional voting systems, which are typically centralized and controlled by a single authority, blockchain-based voting systems are decentralized. This means that no single entity has control over the entire system, reducing the risk of fraud and manipulation**.**

Accessibility:

Electronic voting systems can potentially make voting more accessible for individuals who may have difficulty physically going to a polling station, such as those living abroad, disabled individuals, or the elderly**.**

Auditability:

Anyone can independently verify the votes on the blockchain, enhancing the auditability and transparency of the entire voting process. This helps build trust in the system.

Reduced Costs and Efficiency:

Blockchain technology can streamline the voting process, reducing the need for physical infrastructure and manual vote counting. This can lead to cost savings and more efficient elections**.**

Identity Verification:

Blockchain can be used for secure identity verification, ensuring that only eligible voters can cast their ballots. Biometric data, digital signatures, or other forms of verification

Solution Requirements:

Security: Robust cybersecurity measures to protect against threats.

Privacy: Ensure voter anonymity while maintaining transparency.

User-Friendly Interface: Intuitive design for diverse users.

Accessibility: Inclusive design for all voters.

Data Security: Secure storage, backups, and privacy policies**.**