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Expand e-voting capabilities powered by blockchain technology for greater transparency and immutability

CASE STUDY

About Client

Leading capital market player in India

Industry

Financial services

Service

Cloud

Business **Need**

A leading financial institute wanted to establish a reliable and transparent corporate governance system. As a highly reputed firm in one of the largest capital markets, it needed a real-time, immutable trail of its e-voting activities through a flawless and future-oriented organizational management framework.

Business **Challenge**

The security community often considers electronic voting machines to be faulty or susceptible to tampering. Along with battling this perception challenge, the company's voting process also involved multiple stakeholders. From market regulators to registrars, transfer agents to corporate companies – many entities were participating in its voting procedures. In this context, maintaining the confidence of voters was of paramount importance. But the traditional methods of e-voting could not establish good faith as the system suffered from:

- The absence of heightened security
- Identity authentication thefts
- Concentration of authority in the hands of the voting controller

Conscious of our strong technological footprint and reputation as an ecosystem enabler, the company called upon NSEIT to upgrade its e-voting systems and establish transparency.

Business **Solution**

Domain experts from NSEIT evaluated the client's pain points to create a blockchain-based electronic voting mechanism. The goal was to enforce secure, immutable, and transparent audit trails for all e-voting activities. Our team implemented blockchain's distributed ledger technology as:

- It exists across varied locations. With no single point of maintenance failure in distributed ledgers, no one party could unilaterally alter the voting results or tamper with the system.
- With distributed control over new transaction appendments, any proposed 'new block' would have to reference previous versions of the ledger. This created an immutable chain from which the blockchain derived its name. It prevented tampering and safeguarded the integrity of previous entries
- Most network nodes had to reach a consensus before a proposed new block could become a permanent part of the ledger. This offered greater visibility and accountability and enhanced the security and reliability of the e-voting exercise
- By operating through advanced cryptography, these blockchain features provided higher security than any other previously used technology. Every action by every participant became visible to the e-voting regulators
- Voting rights were tokenized which made them easy to transfer. Only the end-user was allowed to open the digital envelope allocated to them. This ensured that no data tampering took place

Tech **Stack**

HYPERLEDGER

Microsoft .NET

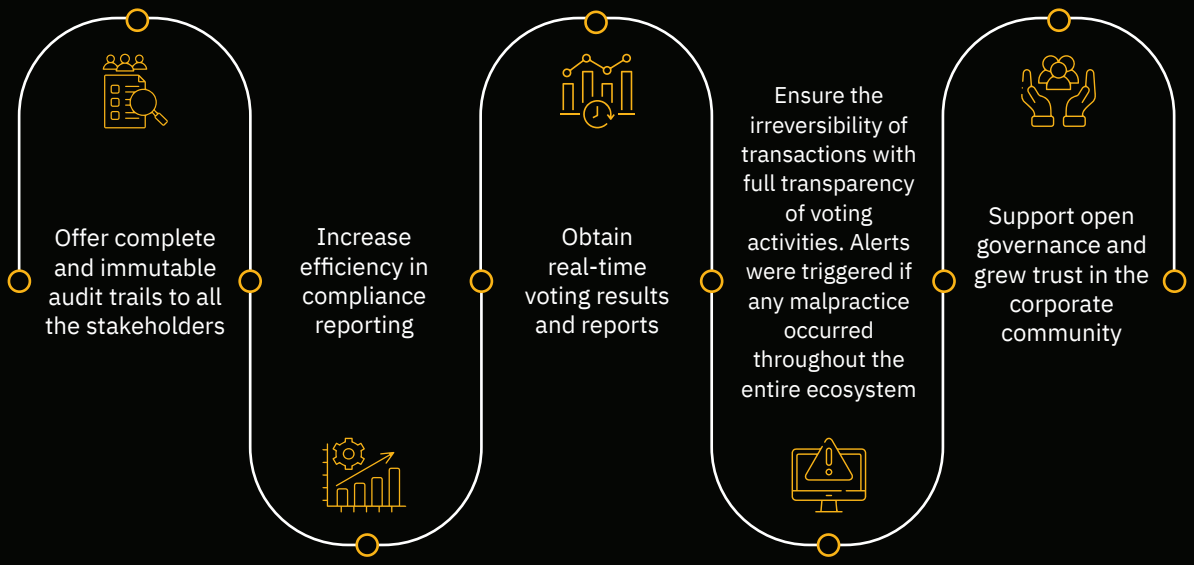
PostgreSQL

ANGULAR

mongoDB.

Business **Impact**

The blockchain-based offered a one-glance view of the entire e-voting system. It implemented checks and balances along the voting activities which allowed the company to:



About **NSEIT**

NSEIT Limited is a digital native technology company that engineers world-class solutions to help our global customers accelerate their digital transformation journeys. Our key service pillars are Application Modernization, Business Transformation, Data Analytics, Infrastructure & Cloud Services, and Cybersecurity, through which we create intuitive digital experiences and tangible business impact. For over two decades, our innate drive for excellence has made us the partner of choice for global organizations. At NSEIT, we fuel digital progress.

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