

BUSINESS REQUIREMENTS

Date	26 October 2023
Team ID	NM2023TMID01010
Project Name	Transparent Education Management System

FUNCTIONAL REQUIREMENTS

Certificate Issuance:

The system must allow issuing authorities to create digital certificates. Certificates should include student name, course, completion date, and a unique identifier.

Blockchain Integration:

The system must integrate with a suitable blockchain platform (e.g., Ethereum) to store certificate data immutably.

Smart Contract Development:

Smart contracts must be developed to manage certificate creation, storage, and verification processes.

Decentralized Storage:

The system should use IPFS or a similar solution for decentralized and secure storage of digital certificate files.

Certificate Verification:

Users should be able to query certificate details using a unique certificate ID. The system must provide real-time verification of certificate authenticity.

Security Measures:

Strong encryption techniques must be employed to secure certificate data and transactions. Public-private key pairs should be used for secure authentication and validation.

User Interface:

Optional user interface (web or mobile app) for users to input certificate ID and view certificate details.

NON-FUNCTIONAL REQUIREMENTS

Performance:

The system must handle a large number of transactions efficiently. Response time for certificate verification requests should be minimal.

Security:

The system should be resistant to unauthorized access, ensuring data privacy. Regular security audits and updates are necessary to address vulnerabilities.

Scalability:

The solution should be scalable to accommodate an increasing number of certificates and users over time.

Reliability:

The system must be available and reliable 24/7 to facilitate certificate verification whenever needed.

Compliance:

The solution must comply with data protection regulations and industry standards for digital credentialing.

Interoperability:

The system should be designed to integrate with existing educational databases and verification systems.