Midterm Project Report

Project Name: Leveraging Blockchain Technology for Secure Data Sharing in Cloud Environments

1. ***Milestones Completed***

- Literature Review: We researched existing studies on blockchain and its role in securing data in cloud environments. This helped us understand what's already out there and where our project can fill gaps.

- Technology Assessment: We looked into different blockchain platforms (like Ethereum and Hyperledger) and decided to use Hyperledger Fabric for our project because it's more suited for secure, permissioned environments.

- Prototype Development: We built a basic prototype that allows users to share data securely using smart contracts, which help control access and ensure data integrity.

- Initial Testing: We ran some basic tests on the prototype in a simulated cloud environment and confirmed that the main features—like uploading and sharing data—work as intended.

2. ***Milestones to Complete***

- Enhancing the Prototype: We plan to add more features, like user authentication and stronger encryption, to improve security.

-Comprehensive Testing: We need to conduct more rigorous testing, including stress tests and security assessments, to make sure the application can handle various scenarios.

- User Interface Development: We will create a more user-friendly interface to make it easier for users to interact with the application.

- Documentation: We'll prepare detailed documentation outlining how the system works, including user guides and development notes.

- Final Report Preparation: Finally, we'll compile everything into a comprehensive report summarizing our findings and results.

3. ***Initial Results***

- Functional Prototype: We now have a working prototype that successfully enables secure data sharing while ensuring data integrity through blockchain technology.

- Performance Metrics: Initial tests show that the prototype performs well under light use, with acceptable response times for basic operations.