Kingdom of Saudi Arabia

Ministry of Education

College of Computer

Computer Science Department

المملكة العربية السعودية
وزارة التعليم
كلية الحاسب
قسم علوم الحاسب

Qassim University
College of Computer | جامعة القصيم كلية الحاسب

TRUSTHEALTH

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INTRODUCTION

What is TrustHealth ?
write a stmt

What proposed solution?

SCOPE

What is our aim for developing EMR ?

Is it exclusive for healthcare sector ?

MOTIVATION

Trust in Digital Healthcare

write a stmt

OBJECTIVES

Developing a Secure EMR System

Cloud Computing Deployment

Performance and Scalability Evaluation

Technologies used

CLOUD COMPUTING

Access IT services via the internet with scalable, pay-as-you-go pricing.

BLOCKCHAIN

Securely records transactions and tracks assets, lowering costs and risks

ELLIPTIC CURVE

Generates efficient cryptographic keys using elliptic curve theory

Cloud Computing Benefits

01   **Cost management**

02   **Data and workload mobility**

03   **Speed and Agility**

Blockchain Benefits

01 Greater Trust

02 Greater Security

03 More Efficiencies

Elliptic Curve Benefits
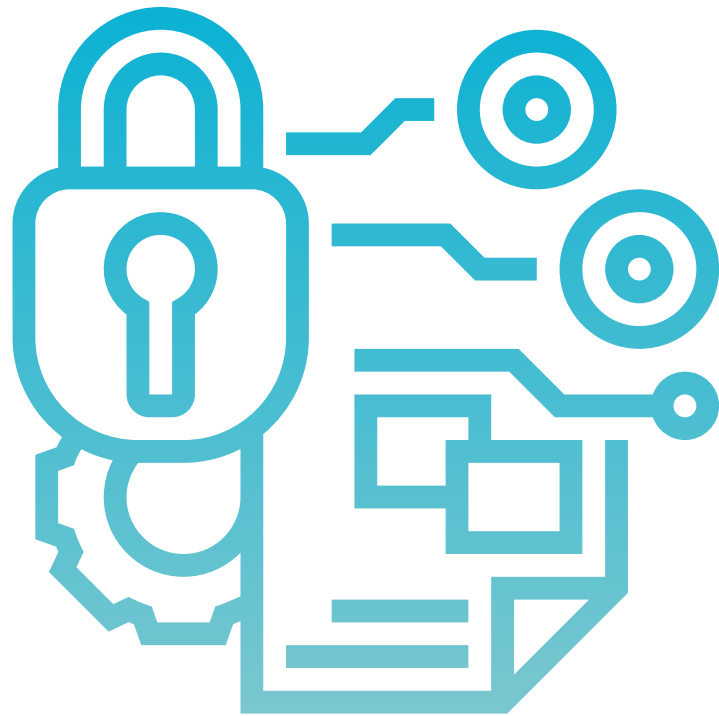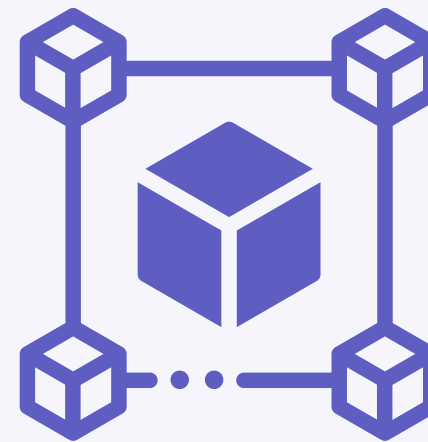
01   **Low Resource Usage**

02   **Fast Encryption**

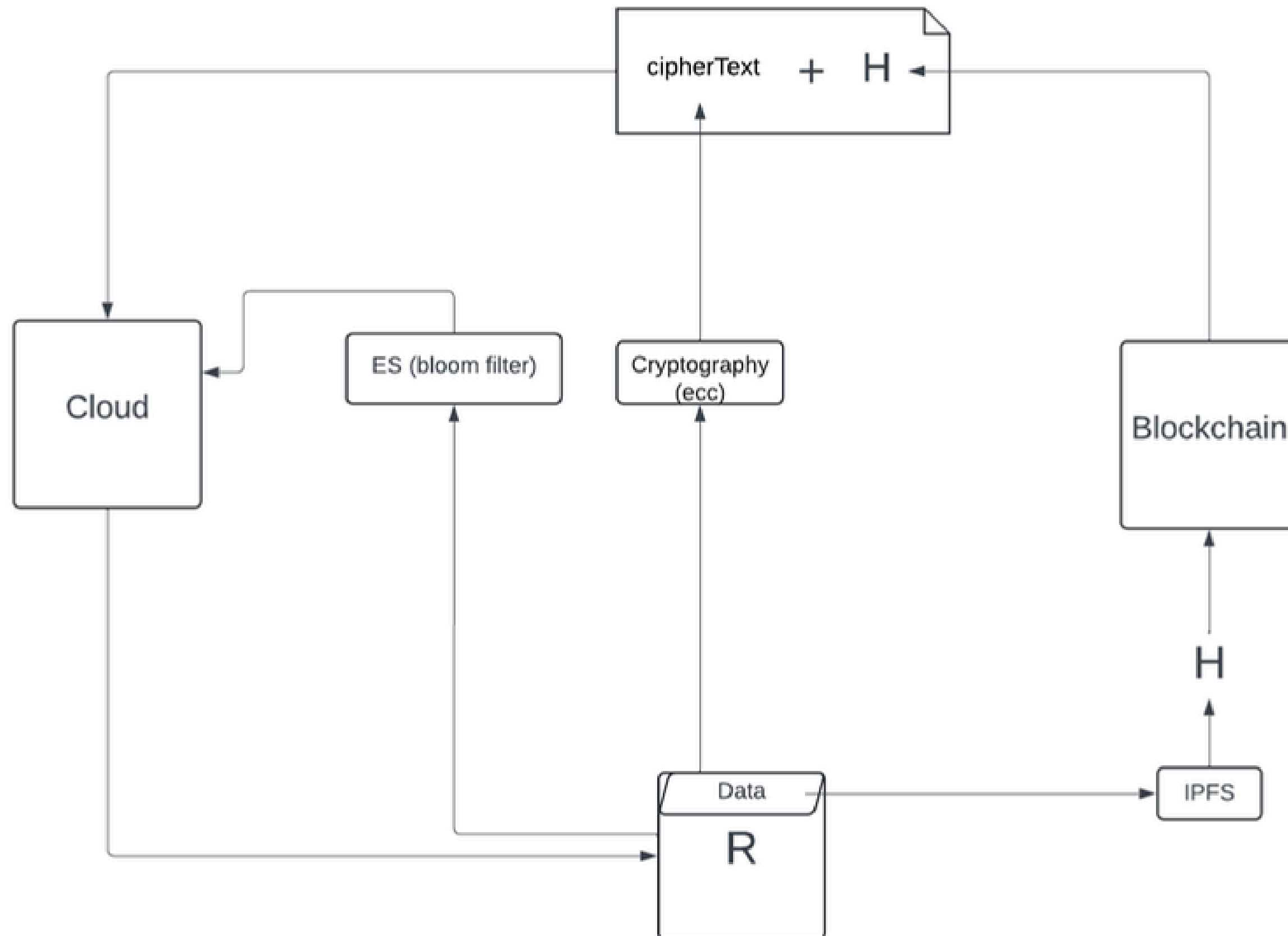03   **Scalable Security**

System Architecture

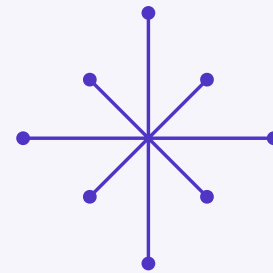## Cloud

Blockchain

Encryption

System Architecture

Functional requirements

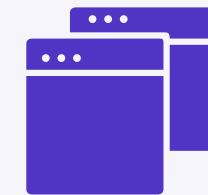|			
1	User Registration and Authentication	**2**	date Creation
3	Data Hashing and Blockchain Storage	**4**	Data Encryption
5	Cloud Storage	**6**	Search and Retrieval

Non-Functional requirements

- Security
- Scalability
- Performance
- Usability
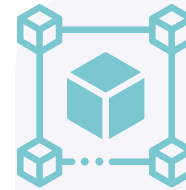- Cloud storage reliability

System Design

USER / ADMIN

External individual or entity interacting with the system

BLOCKCHAIN

Decentralized ledger technology for secure transactions

CLOUD

Online service for storing and accessing data.

SPONSOR HOSPITAL

Healthcare organization supporting the system.

Modelling Diagrams

01 Data Flow Diagram

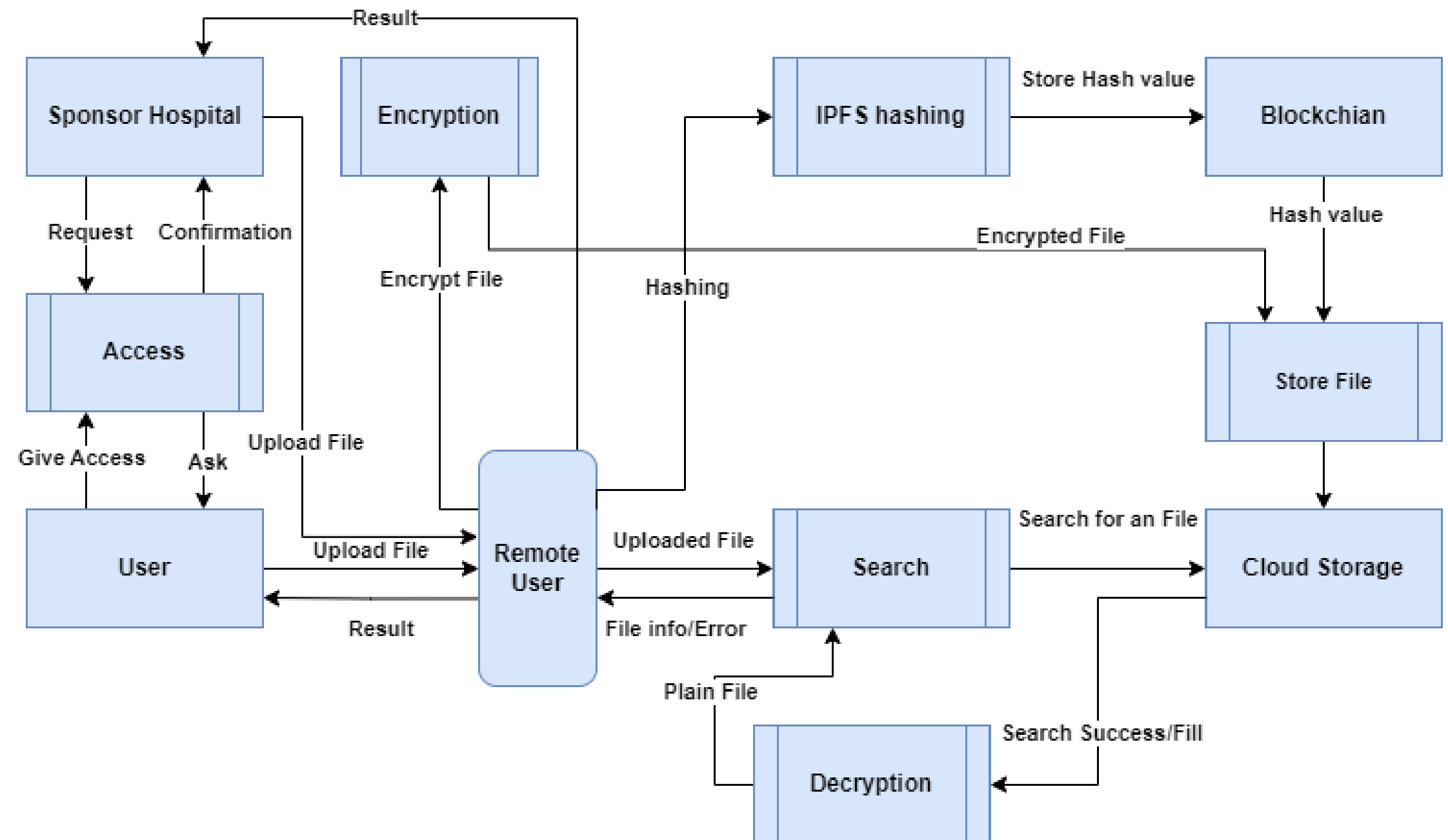**02** Use Case Diagram

03 Sequence Diagram

DFD

Processes :
- Access
- IPFS (Inter Planetary File System)
- Encryption
- Decryption
- Search
- Store File

External Entities:
- User / Admin
- Sponsor Hospital
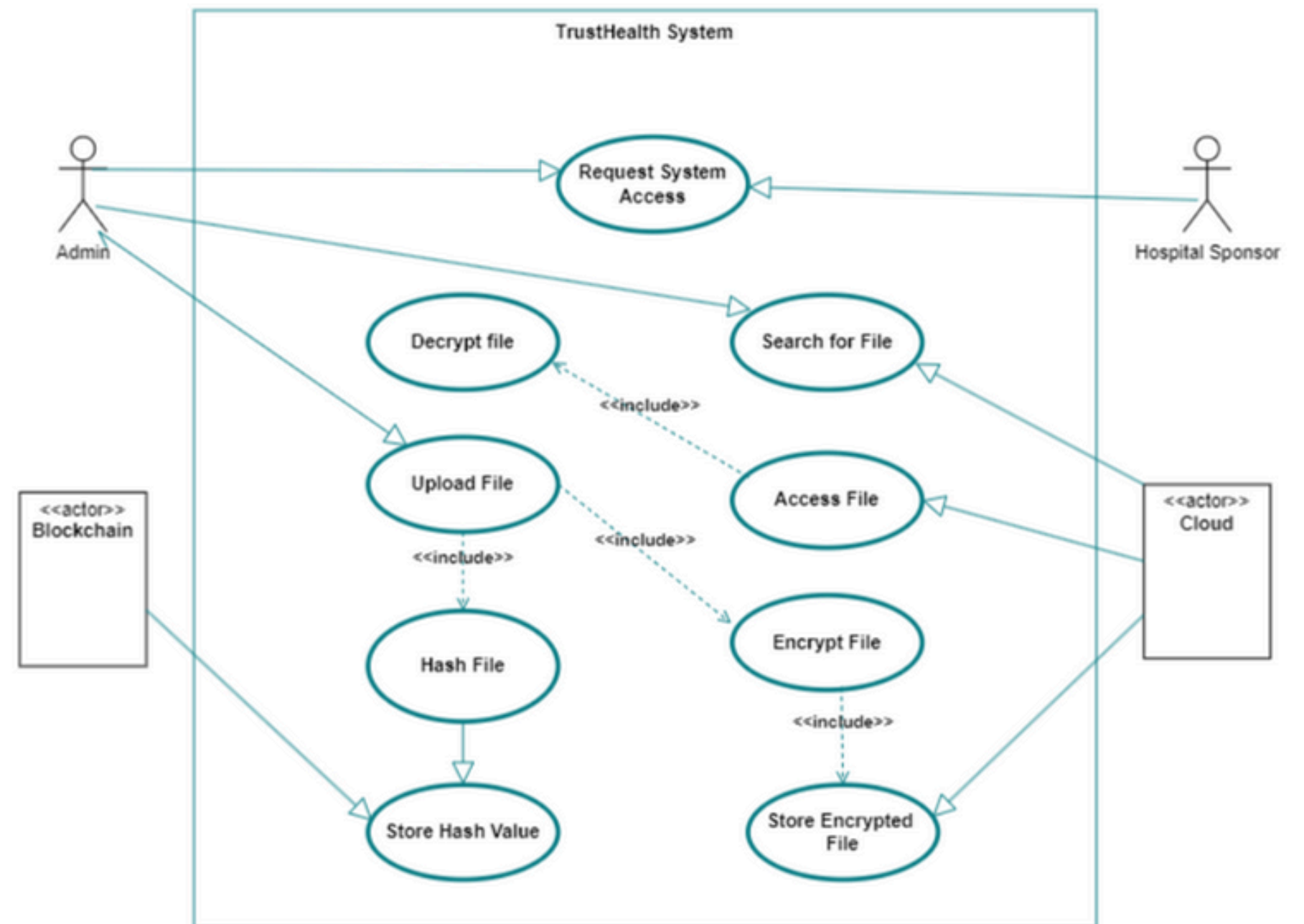- Blockchain
- Cloud Storge

Use Case Diagram

Actors:
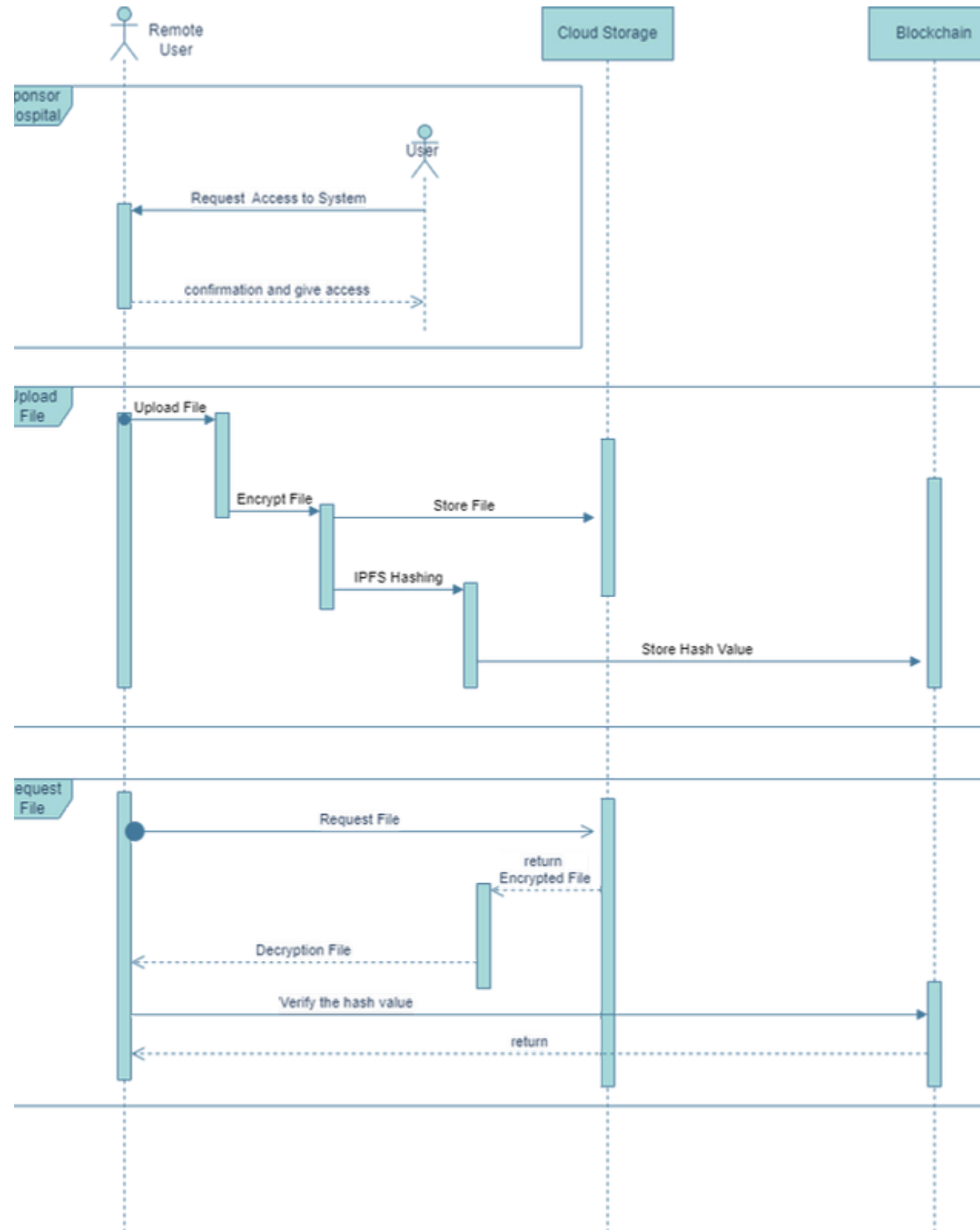- User / Admin
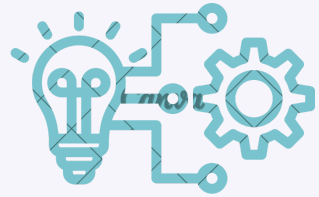- Sponsor Hospital
- Blockchain
- Cloud Storge

Use Cases :
1. Upload File
2. Encrypt File **(Automated Process)**
3. Hash File **(Automated Process)**
4. Store Hash Value
5. Store Encrypted File
6. Decrypt File **(Automated Process)**
7. Search for File
8. Access File
9. Request System Access

Sequence Diagram

Future work

SYSTEM DESIGN

SYSTEM IMPLEMENTATION

SYSTEM TESTING AND RESULT DISCUSSION

CONCLUSION AND FUTURE WORK

Thank you for listening
any questions?