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Sri Indu

College of Engineering & Technology

UGC Autonomous Institution

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BATCH 2022-2026

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MINI PROJECT ON

**STRENGTHENING CLOUD COMPUTING SECURITY MECHANISMS FOR SECURE
KEYWORD SEARCH AND DATA SHARING**

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AGENDA

- Abstract
- Introduction
- Existing system
- Proposed system
- System requirements
- System Architecture
- Modules
- UML Diagrams
- Screenshots of execution
- Conclusion

ABSTRACT

- Cloud computing enables low-cost, scalable data storage but raises security concerns.
- To address this, we propose CPAB-KSDS (Ciphertext-Policy Attribute-Based Keyword Search and Data Sharing).
- Supports both attribute-based keyword search and data sharing.

INTRODUCTION

- Secure keyword search and controlled sharing of encrypted files are essential for confidentiality in critical sectors like healthcare and finance.
- Focuses on data confidentiality, fine-grained access control, and resilience to key exposure.
- Enhances trust and compliance in cloud environments.

EXISTING SYSTEM

- Uses attribute-based encryption (ABE), which is inflexible for dynamic search and sharing.
- Often stores data in plain text or with weak encryption methods.

⚠ Disadvantages

- Poor data privacy during access/sharing.
- Performance Bottlenecks.

PROPOSED SYSTEM

- Introduces CPAB-KSDS: Ciphertext-Policy Attribute-Based Encryption with Keyword Search and Data Sharing.
- Supports keyword updates during sharing.
- CCA-secure, resists collusion attacks.



Advantages

- Strong security: CCA & CKA secure.
- Secures data at rest and in transit.
- Multiple keys enhance decryption protection.

SYSTEM REQUIREMENTS

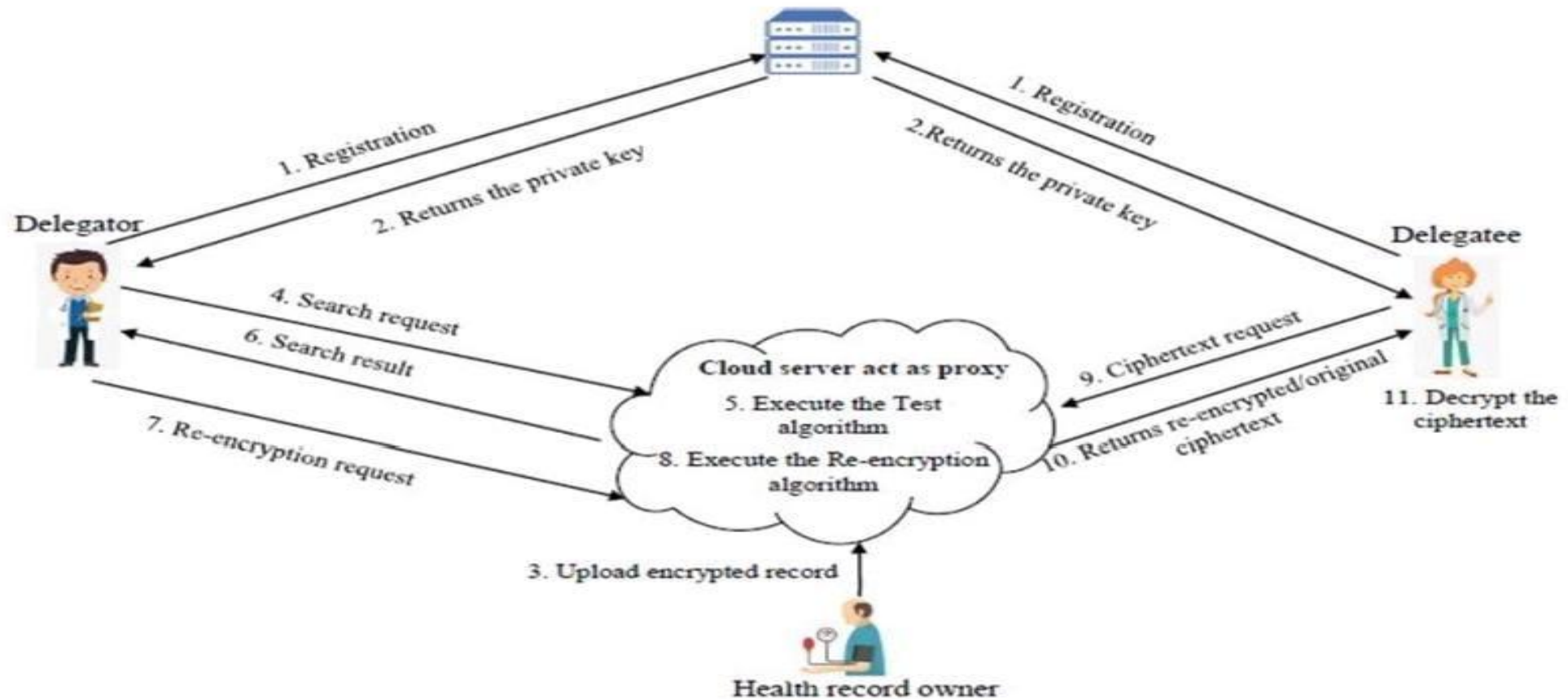
HARDWARE SYSTEM CONFIGURATION:

- Processor : Intel core i3
- Hard Disk : 5 GB
- RAM : 4 GB

SOFTWARE SYSTEM REQUIREMENTS:

- Technology : Java SE 8
- Web Server : Tomcat 7.0
- Client web Technologies : HTML , CSS, JavaScript
- Server side Technologies : Servlets, JSP
- Database server : MYSQL
- Editor : Netbeans8.1

SYSTEM ARCHITECTURE



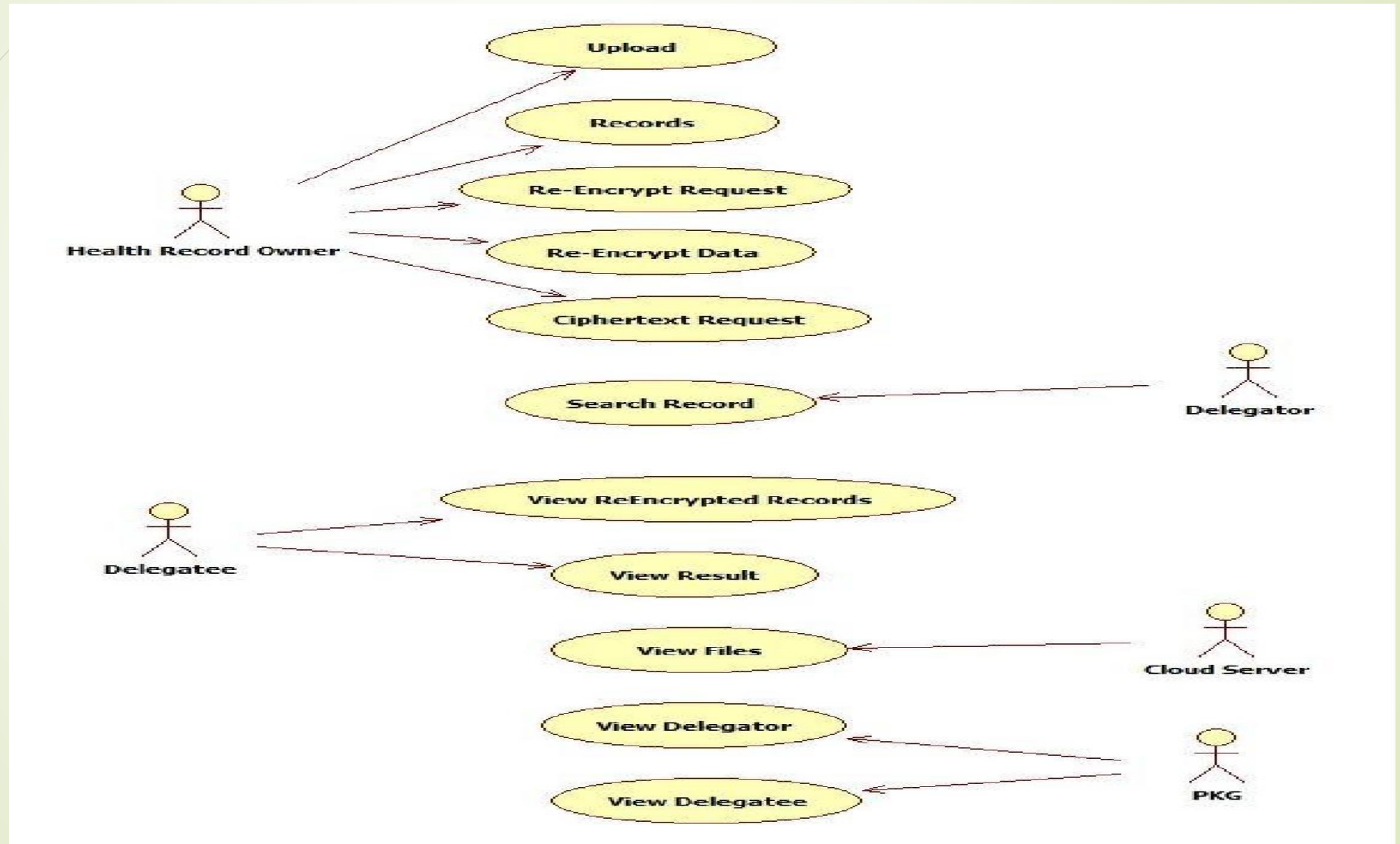
MODULES

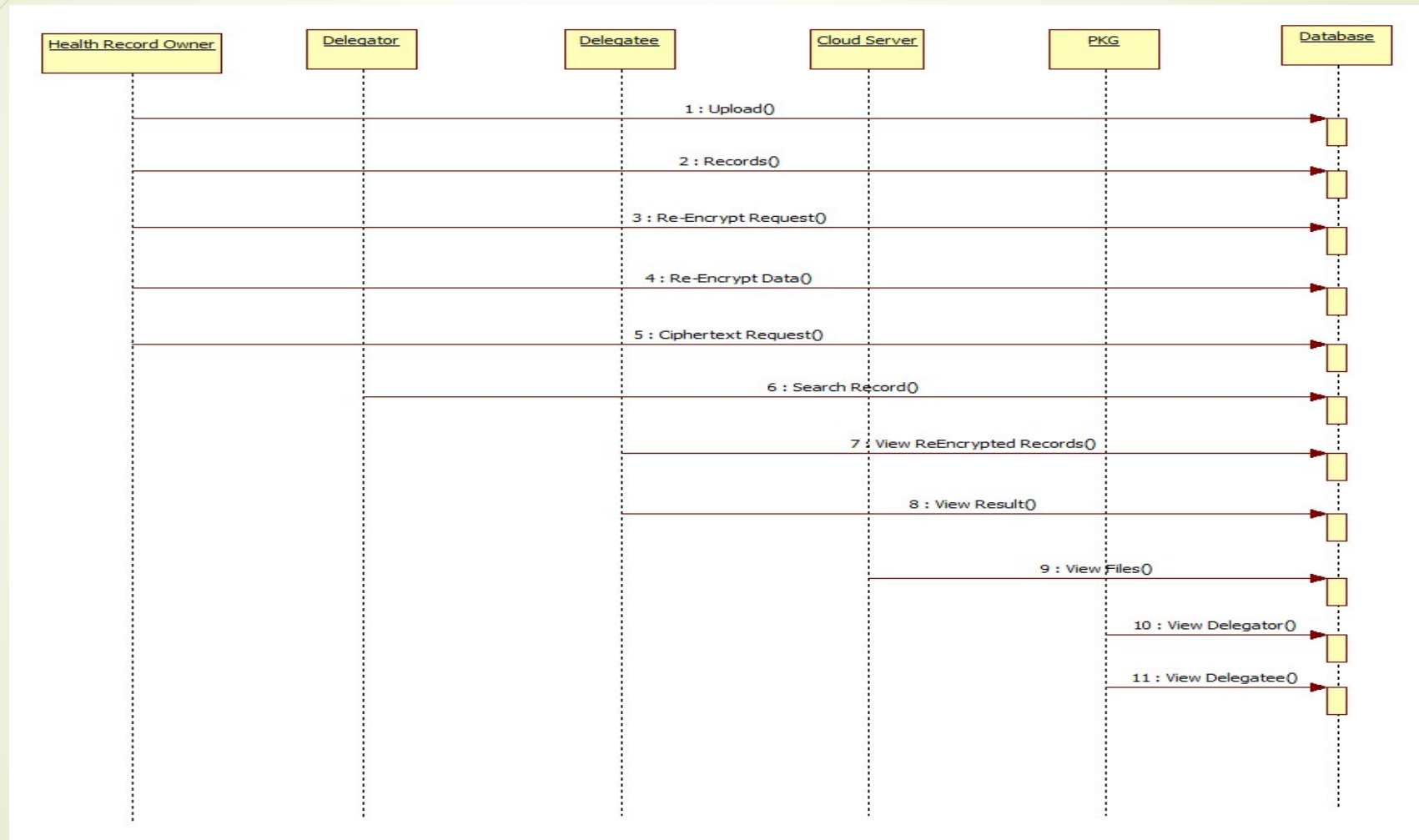
- **Health Record Owner:** Controls access to personal data.
- **Delegator:** Assigns access; retains responsibility.
- **Delegatee:** Accesses shared health records securely.
- **PKG:** Issues and manages cryptographic keys.
- **Cloud Server:** Stores encrypted data; supports secure search & sharing.

UML DIAGRAMS

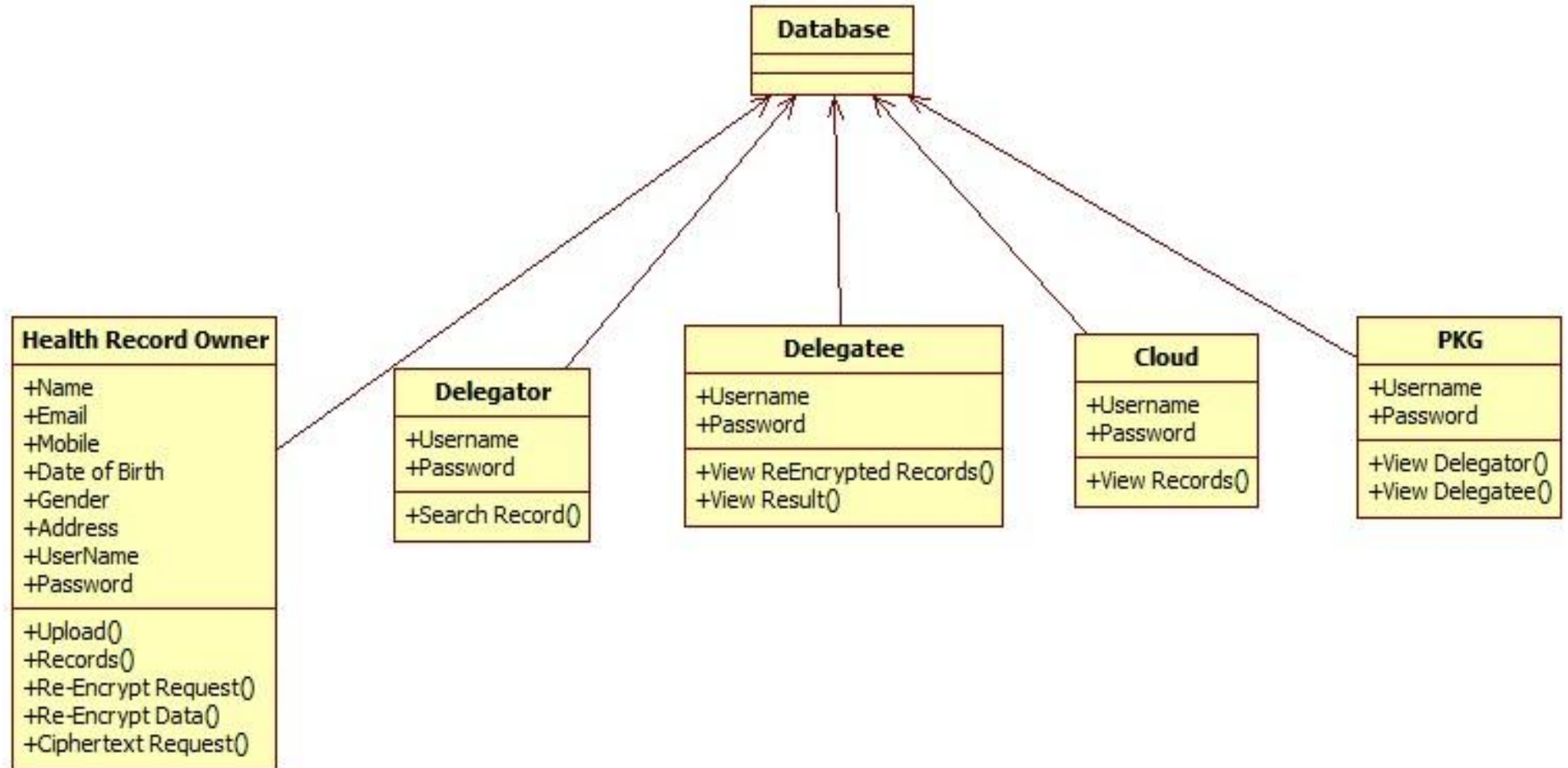
USE CASE DIAGRAM

10

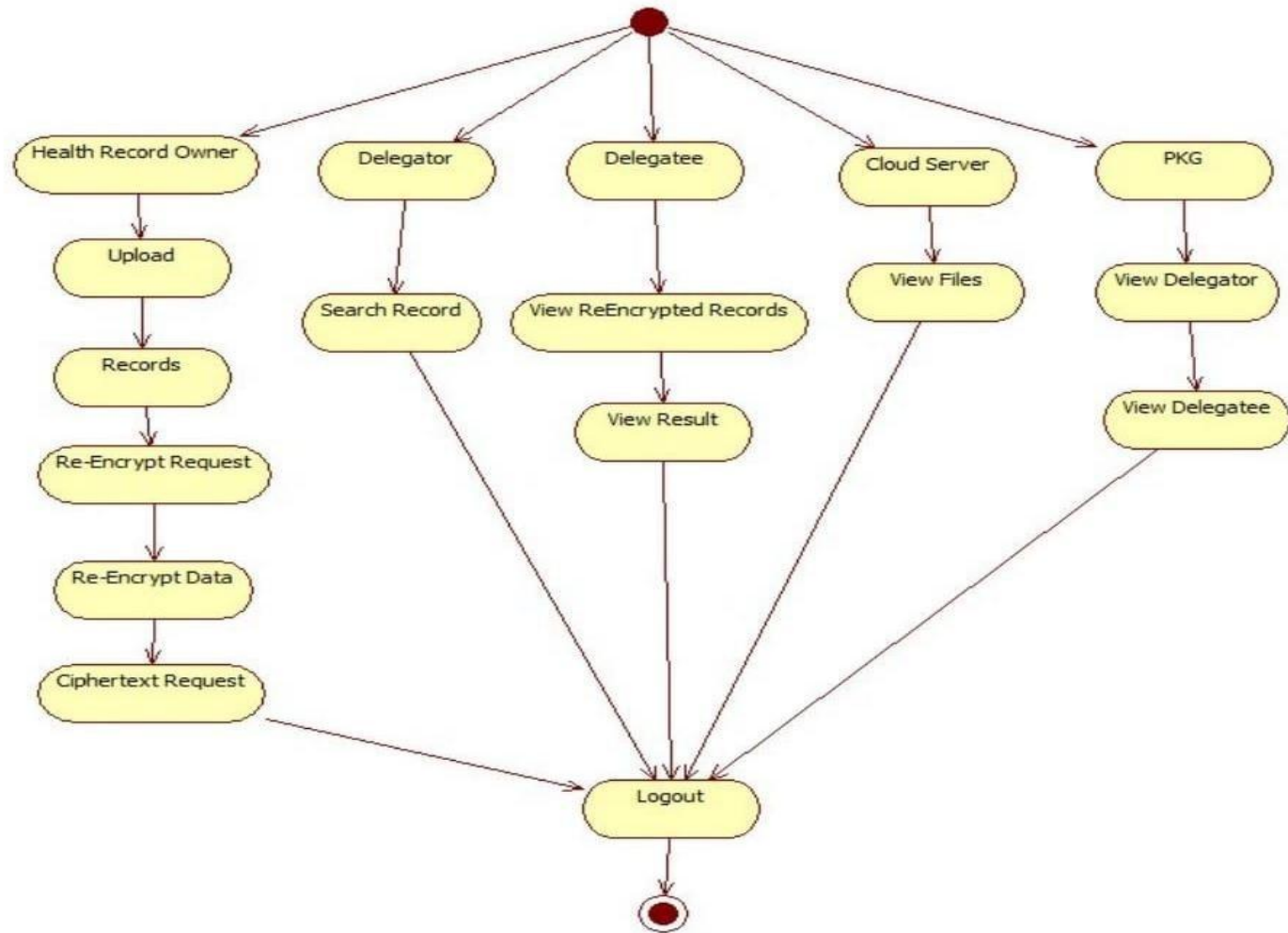




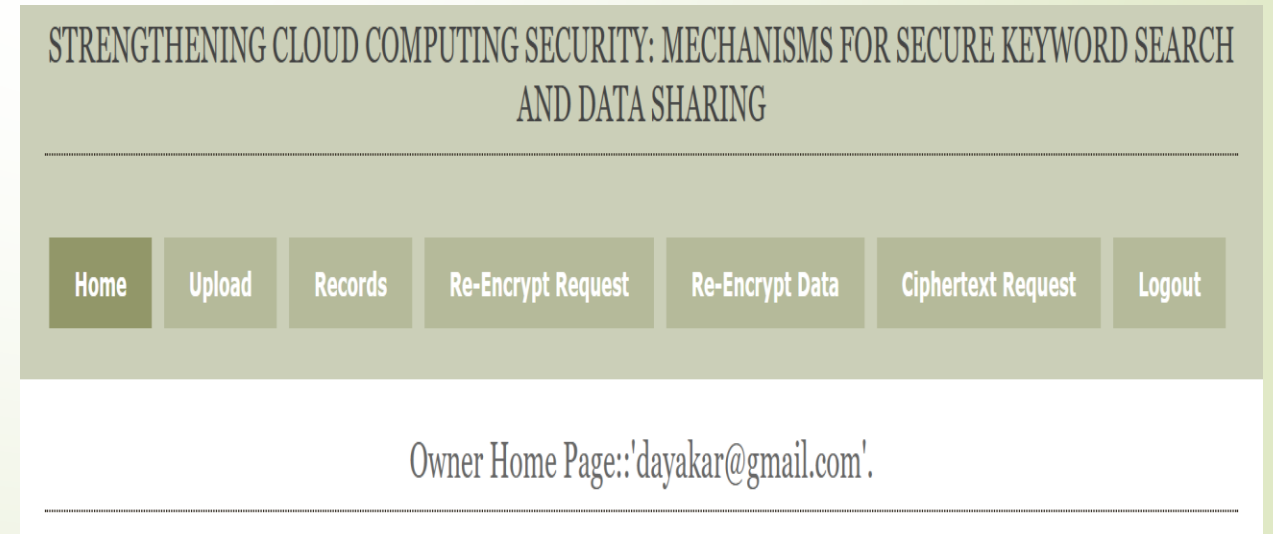
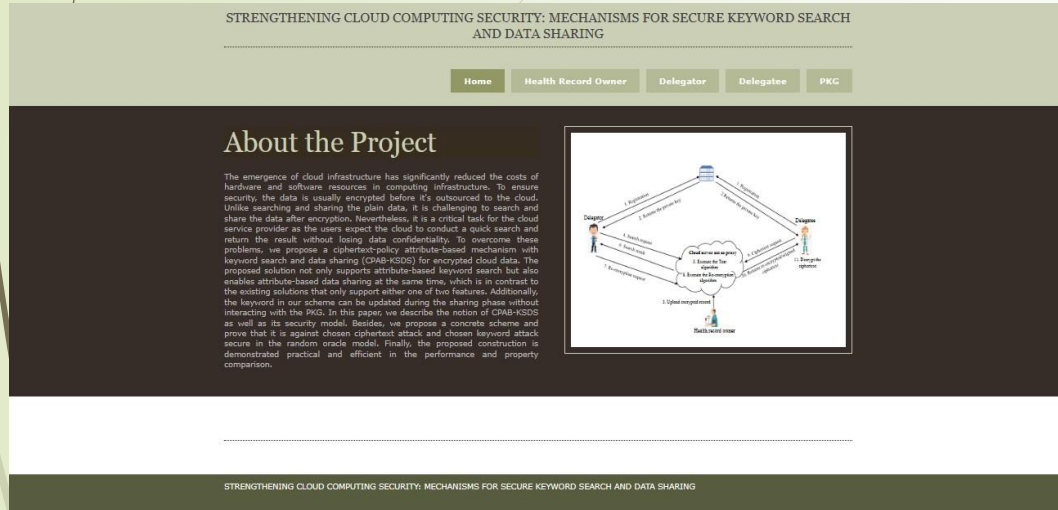
CLASS DIAGRAM



ACTIVITY DIAGRAM



SCREENSHOTS OF EXECUTION



STRENGTHENING CLOUD COMPUTING SECURITY: MECHANISMS FOR SECURE KEYWORD SEARCH AND DATA SHARING

[Home](#)[Health Record Owner](#)[Delegator](#)[Delegatee](#)[Cloud Server](#)[PKG](#)

Delegator Registration

Name	<input type="text"/>
Email	<input type="text"/>
Mobile	<input type="text"/>
Address	<input type="text"/>
UserName	<input type="text"/>
Password	<input type="text"/>
<input type="button" value="Register"/>	Login

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[Home](#)[Health Record Owner](#)[Delegator](#)[Delegatee](#)[Cloud Server](#)[PKG](#)

Cloud Server Login

UserName	<input type="text"/>
Password	<input type="text"/>
<input type="button" value="Login"/>	

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[Home](#)[Health Record Owner](#)[Delegator](#)[Delegatee](#)[Cloud Server](#)[PKG](#)

Delegatee Registration

Name	<input type="text"/>
Email	<input type="text"/>
Mobile	<input type="text"/>
Address	<input type="text"/>
UserName	<input type="text"/>
Password	<input type="text"/>
<input type="button" value="Register"/>	Login

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PKG Login

UserName	<input type="text"/>
Password	<input type="text"/>
<input type="button" value="Login"/>	

CONCLUSION

- Proposed CPAB-KSDS for secure keyword search and data sharing in the cloud.
- Ensures CCA-security
- Demonstrates strong efficiency, practicality, and scalability.
- Addresses prior limitations and opens scope for advanced secure search schemes.

THANK YOU...!!