VI semester project work Synopsis

1.Project title: Cloud Security for Smart Grid(IOT)

The Purpose of the application is to provide portal for cloud access. Where respective Data owner can upload the data available with them to access for Researchers, Government agencies.

The portal is not free for the data users must pay some random fee either day/month/yearly. The data uploaded by data owner is usually encrypted and stored in DriveHQ cloud file server.

2. Domain or Area: Web based application

3. Project Type: Application

4. Description of project

It provides the Data owners to sign in on this portal, which helps them to upload the data which can be confidential and can be accessed by trustworthy users. There will be the privilege for the Data owner to choose who can view the data uploaded.

The purpose of the portal application is to provide High data security. We present an efficient and secure data acquisition scheme based on Cipher text Policy Attribute Based Encryption. Data acquired from the terminals will be partitioned into blocks and encrypted with its corresponding access sub-tree in sequence, thereby the data encryption and data transmission can be processed in parallel.

Data Owners:

In this module, the Data Owner decides the access policy and encrypts the data with Cipher text Policy Attribute Based Encryption. The encrypted data will be uploaded to the Cloud Servers. The data owner response the data receivers file requests. Data Owner choose who can access the file who cannot.

Data Requester/Receivers:

In this module, the Data Receivers send the decryption request to data owner and obtain the cipher texts over the internet. Only when their attributes satisfy the access policies of the cipher text, can they get access to the plaintexts. Data requester/receivers may be charged with some random amount either weekly/monthly/yearly.

Cloud Servers:

In this module, the Cloud Server is responsible for storing a massive volume of data. They cannot be trusted by Data Owner. Hence, it is necessary for Data Owner to define the access policy to ensure the data confidentiality. Cloud Server view only uploaded files details and downloaded files history. The uploaded file is spitted in to number of sub files(all Encrypted).

Attribute Authority:

In this module, the Attribute Authority is responsible for registering users, evaluating their attributes and generating their secret key Secret Key accordingly. It runs the Setup algorithm, and issues public key Public Key and master key Master Key to each Data Owner. It is considered as fully trusted.

5. Technologies used: Java/J2EE

6. Hardware/Software Requirements

Hardware specifications

- Processor   : Intel Core i3
- Processor speed   : 1.8 GHz
- RAM   : 4 GB
- Hard Disk Capacity   : 1 TB

Software specifications

- Operating System   : Windows 7 and above
- Technology   : Java/J2EE
- IDE   : NetBeans 7.2.1
- Database   : MySql

7. Organization Details

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8. External Guide

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