Implementation of Enhanced Association Rule Mining on Horizontal Distributed Databases

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November 11, 2016

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Introduction

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- Data mining is the most fast growing area today which is used to extract important knowledge from large data collections, but sometime these collections are divided among several parties.
- Association rule mining is the data mining technique used in distributed databases.
- Association rule mining finds interesting associations and/or correlation relationships among large sets of data items.

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- Apriori algorithm is used to generate frequent item sets in a large amount of database. The frequent item sets determined by Apriori can be used to determine association rules.
- K & C is one of the existing protocol for mining of association rules in horizontally distributed databases.

Motivation

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- The existing protocol for secure mining of association rules in horizontally distributed databases disclosed information so there is need of a protocol which minimizing the information disclosed of private data.

Problem Definition

- Proposed protocol is based on the FDM, which is an distributed version of the Apriori algorithm used to generates a small number of candidate sets and the number of messages to be passed at mining association rules.
- Extracting data from distributed database system more number of irrelevant data occur. Irrelevant data is avoided by using the Apriori algorithm.

Objective

- Propose protocol is use for secure mining of association rules in horizontally distributed databases.
- The main element in propose protocol is a secure multiparty algorithms:
  1. computes the union of private subsets
  2. tests the inclusion of an element

System Requirement Specification

Minimum Hardware Requirements includes:

- Hard Disk 40 GB.
- RAM 512 MB
- Floppy Drive
- Monitor
- Mouse
- Keyboard

Software Requirements includes:

- Operating system: Ubuntu/Windows
- JDK 7
- NetBeans 7.4
- Database: LAMP/WAMP 2.0

Propose System

- Propose protocol computes a parameterized family of functions, which call doorstep functions, in which the two cases communicate to the problems of computing the union and intersection of private subsets.
- In propose system inputs are the partial databases and the required output is the list of association rules.

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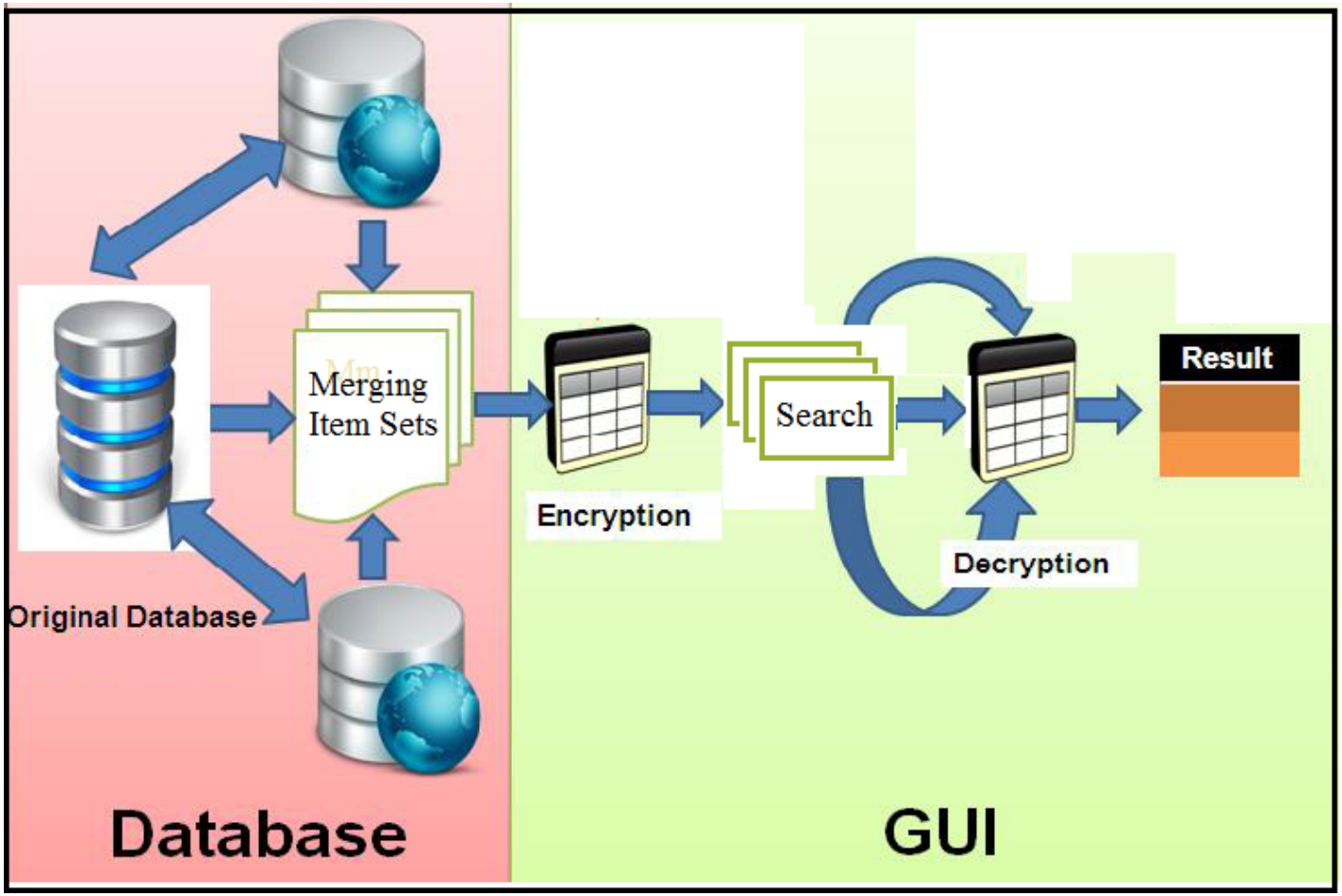

Figure: System architecture

Application

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- Medical System
- Shopping
- Banking Sector

UML Diagrams

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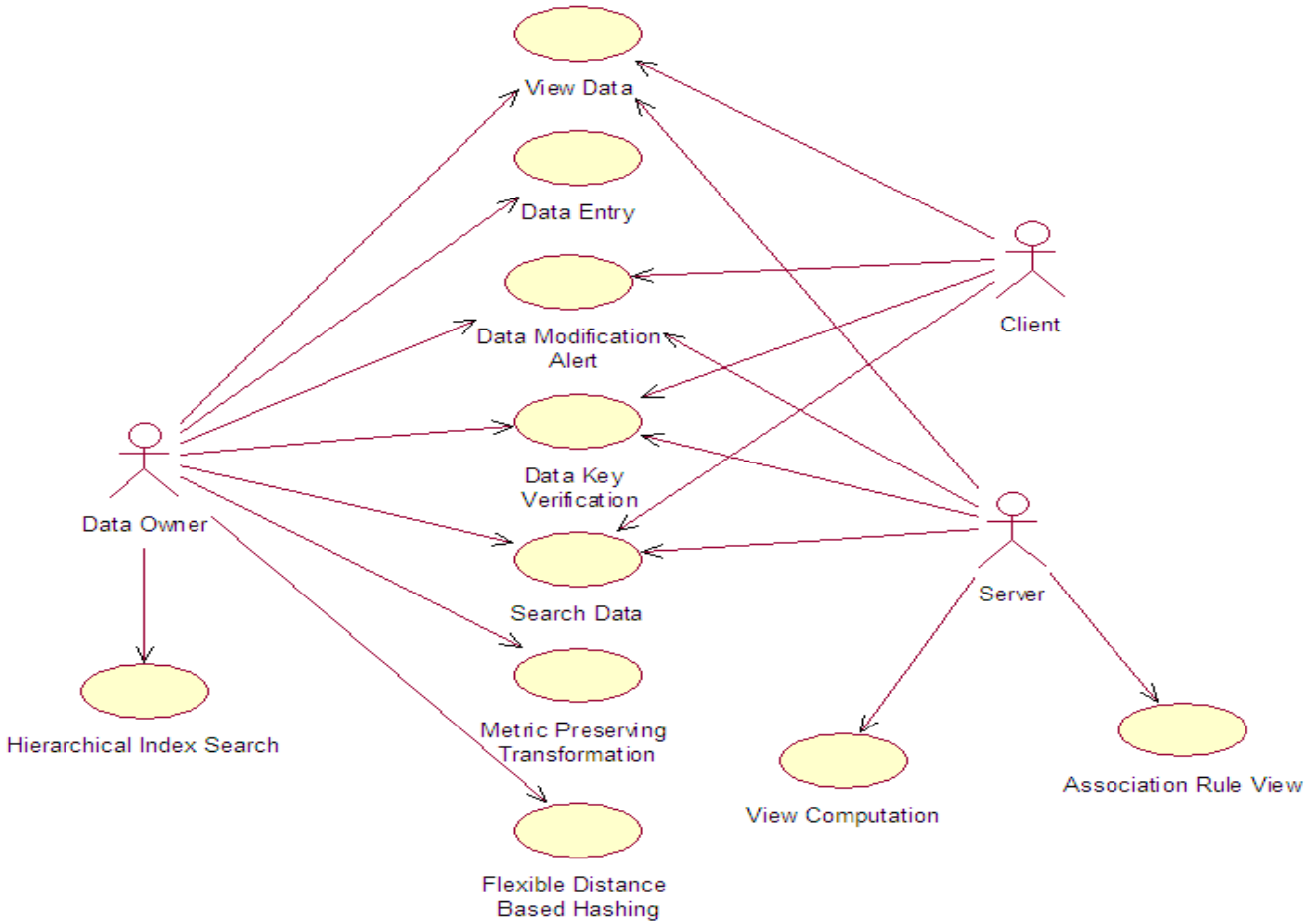

Figure: Use Case Diagram for DNA System

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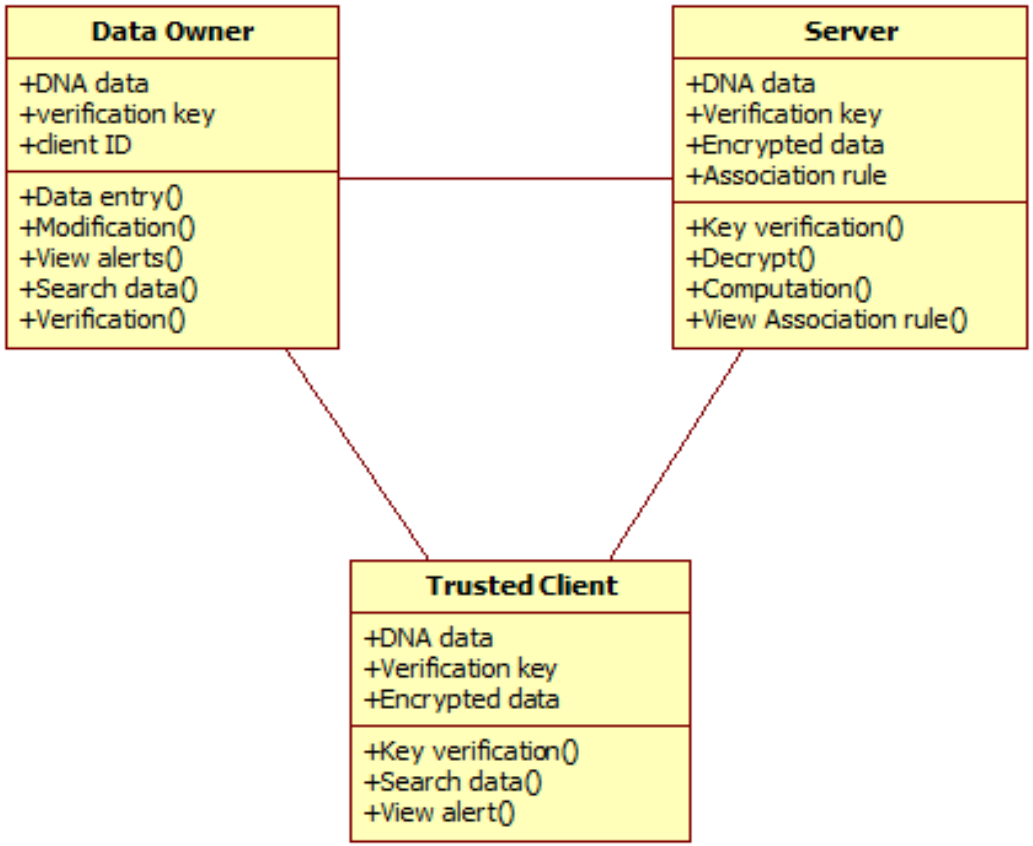

Figure: Class Diagram for DNA System

Reference

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