Security and Verification of Server Data Using Frequent Itemset Mining in Ecommerce

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ABSTRACT

Frequent itemsets refer to a set of data values (e.g., product items) whose number of co-occurrences exceeds a given threshold. The challenge is that the design of proofs and verification objects has to be customized for different data mining algorithms. Intended method will implement a basic idea of completeness verification and authentication approach in which the client will uses a set of frequent item sets as the evidence, and checks whether the server has missed any frequent item set as evidence in its returned result. It will help client detect untrusted server and system will become much more efficiency by reducing time. In authentication process CaRP is both a captcha and a graphical password scheme. CaRP addresses a number of security problems altogether, such as online guessing attacks, relay attacks, and, if combined with dual-view technologies, shoulder-surfing attacks.

KEYWORDS

Authentication, CaRP, Data Mining, Frequent Item Set, Security, Verification

INTRODUCTION

Digitalization provides greater efficiency in today's life so we try to automate all work but it generates worst amount of data, storing and operationalize on this data is challenging work. Frequent itemset mining has been proven important in many applications such as market data analysis, networking data study, and human gene association study. Constructing cryptographic proofs for verification (for deterministic guarantee) and artificial verification objects (for probabilistic guarantee) can be applied to most data mining algorithms. In data mining, outsourcing this computation to third party service provider provides limited access resource client advantages like cost effective options. Through this process, we try to take the advantage of data-mining-as-a-service (DMaS) paradigm. In this paper author performed frequent data mining tasks on outsourced data mining, frequent itemset is nothing but a set of data values which is product items increasing threshold value of number of co-occurrences in set of data values. Frequent itemset mining plays crucial role in many applications

like market analysis, human gen association study and in network data study. Author considers the server that is potentially untrusted and tries to escape from verification by using its prior knowledge of the outsourced data. This paper proposes system define efficient probabilistic and deterministic verification approaches to check whether the server returned correct and complete frequent itemsets or not? In authentication process CaRP is both a graphical password scheme and a Captcha. CaRP addresses a number of security problems altogether, such as relay attacks, online guessing attacks and also if combined with dual-view technologies, shoulder-sufering attacks. Existing system frequent itemset mining that is computationally intensive for that natural solution chooses computationally powerful service providers for those clients of limited computational resources. It also focuses on the Correctness, completeness and removing the integrity in mining result set.

The term database as a Service, Database as a Service (DBaaS) is associate degree architectural and operational approach, sanctioning IT suppliers to deliver information functionality as a service to at least one or a lot of shoppers. DBaaS affords organizations a chance to standardize and optimize on a platform that eliminates the necessity to deploy, manage and support dedicated information hardware and software for every project's multiple development, testing, production, and failover environments (Hu et al., 2010).

The DBaaS ameliorates the necessity to buy and install the data management hardware and software package at information owner's site. The information owner and shoppers use the readymade information service availed to them by service supplier. The Organizations buy the information service they're obtaining from the service supplier. For the businesses with less quantity of resources restricted hardware and time-bound comes, DBaaS most accurately fits the situation. As a result of its inherent scalable property, DBaaScan proportion well just in case of skyrocketing user demands and additionally scale down once the demand subsides. The deployment of infrastructure for industries gets easier with the help of DBaaS. It offers agile and on-demand services, optimizes performance calibration of the system, lowers the operating cost and complexness, accelerates the provisioning i.e. permits to clone the previous information with a replacement schema, shortens the sales cycle, provides failover atmosphere for project execution, allows the centralized administration and management of every kind of databases (Papamanthou et al., 2011).

ARCHITECTURE OF OUTSOURCED TRANSACTION DATABASE MODEL

There are mainly three entities involved in the outsourced transaction database model.
The three entities are:

1. Data Owner;
2. Service provider;
3. Clients.

The design seems like given below of Outsourced Transaction Information Model. Generally, information owner and purchasers are thought of as trusting entity whereas service supplier is distrustful in context of disclosing information in associate unauthorized manner. The Data-owner is liable for update, insert, delete, modify, access databases. The information owner has the authority to permit or deny the purchasers for accessing the information. The Service supplier performs all the information maintenance tasks.

Data management hardware and software package tools are deployed and maintained at the provider's website. The responsibilities of Service-provider are given below:

● Provide Database as a Service;
● Maintenance & administration of database;

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