



## IMPLEMENTATION OF DYNAMIC SEARCH METHOD FOR MANAGING DOCUMENT COLLECTION

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### ABSTRACT:

In the recent times, various techniques were proposed to maintain the operations of insertion as well as deletion on document collection. More realistic method such as searchable encryption has made particular contributions regarding efficiency as well as security. These methods will permit the clients for storing of encrypted data in cloud and perform the process of keyword search above cipher-text. We introduce an effectual search scheme of tree-based on encrypted cloud data that maintains multi-keyword ranked search as well as dynamic process on the collection of documents. The model of vector space model and term frequency with inverse document frequencies are merged as index-construction as well as query generation of query for provision of multi-keyword ranked search. Because of tree-based index structure, our projected system will attain sub-linear search time and manage insertion as well as deletion process of documents. The scheme is considered to put off cloud server from learning of extra information regarding collection of data, the index tree, as well as query.

***Keywords: Searchable encryption, Cloud server, Tree-based index, Multi-keyword ranked search, Cipher-text, Vector space.***

## 1. INTRODUCTION:

Although there are several advantages of cloud computing services, but there are various issues regarding privacy while outsourcing of sensitive information to inaccessible servers. Providers of cloud service will control the data and also provides accessing of user information devoid of authorization [1]. A common technique for defending of data privacy is encryption of data earlier than outsourcing but this method will make more expenses cost regarding data usability. The methods of searchable encryption will permit the clients for storing of encrypted data in cloud and perform the process of keyword search above cipher-text. Because of cryptography primitives, methods of searchable encryption are put up by means of public key or else symmetric basis cryptography. Many works were made in several models of threat for attaining search functionality, for instance single keyword search, multi-keyword ranked search, and so on. The approach of multi-keyword ranked search will attain much attention for realistic applicability. It might be a difficult work to scheme a dynamic searchable encryption method whose operation of updating will be done by cloud server, for the meantime

ability to manage search process of multi-keyword. Our work will put forward an effective search scheme of tree-based on encrypted cloud data that maintains multi-keyword ranked search as well as dynamic process on the collection of documents. Our system will mainly consider challenge from cloud server and it is considered to offer multi-keyword query as well as exact result ranking, and moreover dynamic update on collection of documents. The model of vector space model and term frequency with inverse document frequencies are merged as index-construction as well as query generation of query for provision of multi-keyword ranked search [2][3]. The system is considered to put off cloud server from learning of extra information regarding collection of data, the index tree, as well as query. Because of particular tree-based index structure, our proposed scheme will attain sub-linear search time and manage insertion as well as deletion process of documents.

## 2. METHODOLOGY:

Several researchers in literature have designed some common solutions by fully-encryption. But these are not helpful because of high computational cost for cloud

server as well as user. As it is extremely promising those data owners necessitate updating their information on cloud server but only some of active schemes will manage effective search scheme of multi-keyword. We introduce an effective search scheme of tree-based on encrypted cloud data that maintains multi-keyword ranked search as well as dynamic process on the collection of documents. The model of vector space model and term frequency with inverse document frequencies are merged as index-construction as well as query generation of query for provision of multi-keyword ranked search. For resisting of statistical attacks, addition of phantom terms to index vector in support of blinding search results was performed. Our proposed scheme will attain sub-linear search time and manage insertion as well as deletion process of documents due to particular tree-based index structure. Term frequency is number of times a specified term will come into view in a document, and inverse document frequency is attained all the way through division of cardinality regarding document collection by number of documents that contains the keyword. For permitting of effective multi-keyword ranked search on outsourced encrypted

cloud information, our system has to follow design goals. The proposed system is considered to offer multi-keyword query as well as exact result ranking, and moreover dynamic update on collection of documents [4]. The scheme aims to attain sub-linear search effectiveness by means of exploring of particular tree-based index in addition to proficient search algorithm. In this scheme, data owner is answerable for generation updating of data and conveying them towards cloud server hence data owner stores up unencrypted index tree as well as information that are essential to recalculate inverse document frequencies values. The proposed system is considered to put off cloud server from learning of extra information regarding collection of data, the index tree, as well as query.

### **3. AN OVERVIEW OF PROPOSED SYSTEM:**

Due to much demand for cloud computing applications, most of the data owners are encouraged for outsourcing of their data towards cloud servers for decreased cost in management of data. But sensitive data must be encrypted previous to outsourcing for the needs of privacy that outdates data utilization. In our work we design a scheme

of searchable encryption that supports precise multi-keyword search as well as effective dynamic process on collection of document. The scheme aims to achieve sub-linear search effectiveness by means of exploring of particular tree-based index in addition to proficient search algorithm. The vector space model and term frequency with inverse document frequencies are merged as index-construction as well as query generation of query for provision of multi-keyword ranked search. Term frequency is number of times a specified term will come into view in a document, and inverse document frequency is attained all the way through division of cardinality regarding document collection by number of documents that contains the keyword. In the model of vector space, each of the documents is identified by vector; whose elements are Term frequency normalized regarding the documents. Because of particular tree-based index structure, our proposed scheme will attain sub-linear search time and manage insertion as well as deletion process of documents. The proposed system is considered to put off cloud server from learning of extra information regarding collection of data, the index tree, as well as query. In proposed

scheme, data owner is answerable for generation updating of data and conveying them towards cloud server hence data owner stores up unencrypted index tree as well as information that are essential to recalculate inverse document frequencies values. Such data owner might not be appropriate for cloud representation [5]. It might be meaningful but tricky work to scheme a dynamic searchable encryption method whose operation of updating will be done by cloud server, for the meantime ability to manage search process of multi-keyword. Like most of works concerning searchable encryption, our system will mainly consider challenge from cloud server. The system model in our work will consider entities such as data owner, user as well as cloud server, as shown in fig1. Data owner contains documents that are necessary to outsource to cloud server in the encrypted form while managing search ability intended for efficient use. In our system, data owner constructs protected searchable tree index from the collection of document, and produces collection of encrypted document. Data owner will outsource encrypted collection as well as secure index towards cloud server, and allocate key information of trapdoor generation as well as decryption of

documents to approved users. Data owner is accountable for updating of documents that are stored in cloud server. During updating, data owner will produce update information and sends it towards server. Data users are approved to access documents. With t query keywords, user will produce a trapdoor in relation to methods of search control to obtain encrypted documents and later user can decrypt documents by means of shared secret key. Cloud server will store up collection of encrypted documents as well as tree index of for data owner. On receiving of trapdoor from user, cloud server will put into practice search on index tree, and returns equivalent collection of ranked encrypted documents. Upon receiving of information from data owner, server needs to bring up to date index as well as document collection consistent with received information. The cloud server in proposed scheme is honest-but-curious, that is employed by several works on search of cloud data. Cloud server will accurately implement commands in selected procedure [6]. For the meantime, it is interested to analyze received information that obtains extra information.

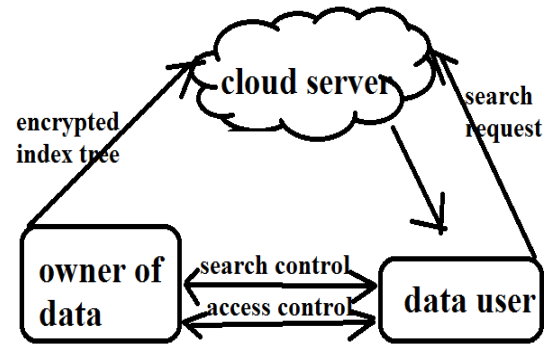


Fig1: Structure of Ranked Search on Encrypted Data

#### 4. CONCLUSION:

Many efforts were made in several models of threat for attaining search functionality, and among them the approach of multi-keyword ranked search will attain much attention for realistic applicability. We make a study of an effective search scheme of tree-based on encrypted cloud data that maintains multi-keyword ranked search as well as dynamic process on the collection of documents. The model of vector space model and term frequency with inverse document frequencies are merged as index-construction as well as query generation of query for provision of multi-keyword ranked search. Term frequency is defined as number of times a specified term will come into view in a document, and inverse document frequency is attained all the way

through division of cardinality regarding document collection by number of documents that contains the keyword. Due to particular tree-based index structure, our proposed scheme will attain sub-linear search time and manage insertion as well as deletion process of documents. The projected scheme is considered to offer multi-keyword query as well as exact result ranking, and moreover dynamic update on collection of documents.

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