KNN CLASSIFICATION FOR ENCRYPTED QUERCY DATA IN CLOUD

[1]Dr.D.Kerana Hanirex, [2]Dr.A.MuthuKumaravel,
[1]Associate Professor & Head, Department of Computer science,[2]Dean –Arts & Science,
[1,2]Faculty of Arts & Science, BIHER
[1,2]Chennai-73
[1]keranahanirex.cse@bharathuniv.ac.in, [2]dean.arts@bharathuniv.ac.in

Abstract:

Data mining consists of various applications in financial and medical. Data Mining perform various tasks.Classification is one of the main task in data mining. In this paper classification is integrated in Cloud computing.Whenever the user created data in offload that can be encrypted and sent to the cloud.This paper uses classification technique for security in cloud. This paper implements KNN classification and prove its efficiency.

Keywords :Security, Classification ,KNN classifier, encryption, Security

Introduction:

Data mining is the process of exploring hidden pattern from the database.Data mining also known as Knowledge Discovery[15,16,17,18,19,20] in Databases.To avoid data overhead the data can be offloaded to the cloud by the companies.Cloud computing provide access to secure data[1].Assume that if one company stores the data in offline to the cloud.Suppose if the company search particular data the query should be generated at the user side and securely sent to the cloud through the encryption scheme.
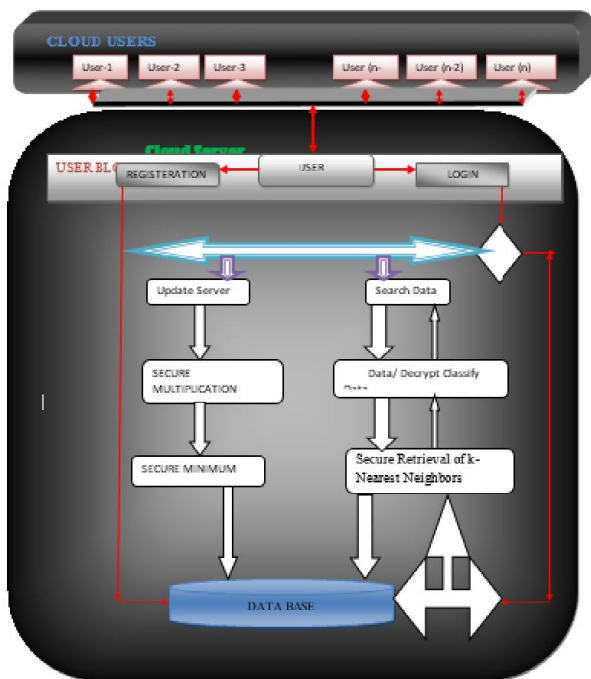
Currently we are having various encryption techniques to hide the user access pattern data.This system uses KNN classification for identifying classification pattern.

Literature Survey:

Various encryption scheme are introduced. Shamir proposed secret encryption scheme which uses random prime number generation for the key.This method is also not safe against intruders[2].In earlier system if the client's private's key is exposed ,any one can access the secure data[3].Various privacy preserving techniques have been introduced to secure data in cloud environment[4]. Paper [5] proposes harmonic encryption scheme for security of data. Secure multiparty model has been proposed to solve the various security issues in Cloud environment.Various classification techniques have been proposed in data mining[6,7].This paper uses KNN classification[21,22,23,24,25,26,27] scheme for secure data.This method uses euclidean distance for classification of data based on the queries by maintaining privacy of data[8].

System Architecture:

Fig 1: Over all Architecture

Modules:

User Interface Design: To associate with server client must give their client id and secret key to interface the server. Server will maintain data transfer and downloading of information. This system uses LIC data for analysis.

User Process Module: This module download client information.

Secure multiplication (SM): This module provide encryption process.

Secure Minimum(SM): This process generates key.

Decrypt classified data: This module gives decrypted classified data.

Results & Discussions:

This paper uses LIC data. The client given the query to the server. The query is encrypted and the data are classified based on KNN classification [9,10,11, 12,13,14] algorithm. The results are encrypted and returned back to the client.
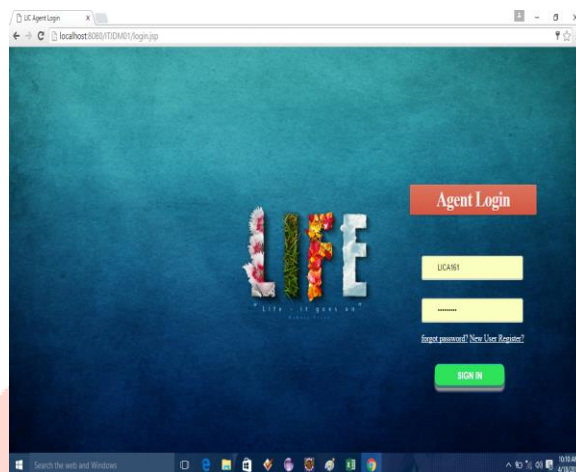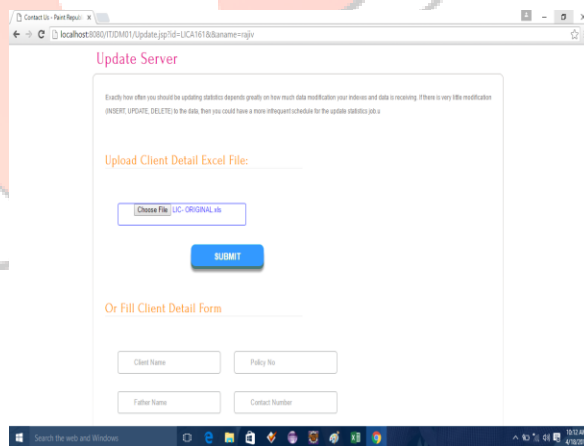
Sample Screenshots:

Fig 2: Login page
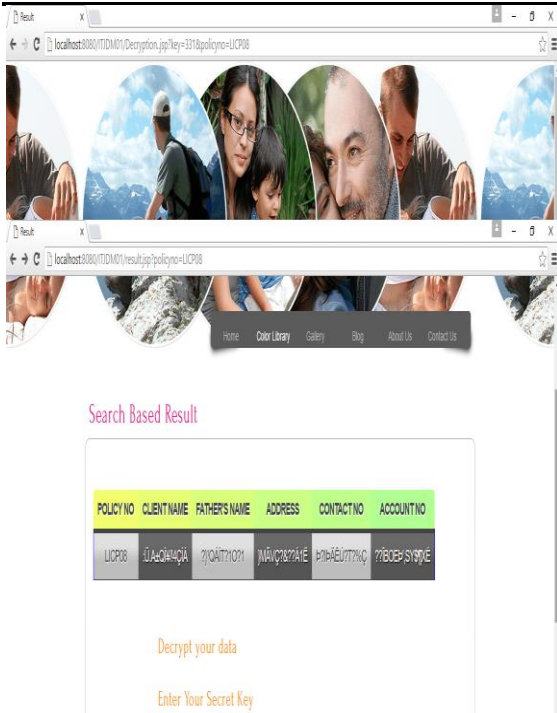

Fig 3:Update Server

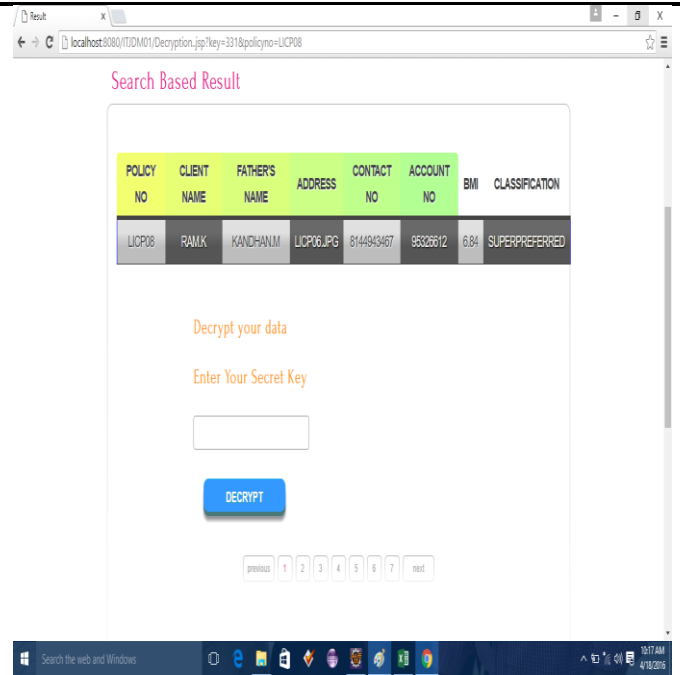**Fig 4:Search the data based on the query**

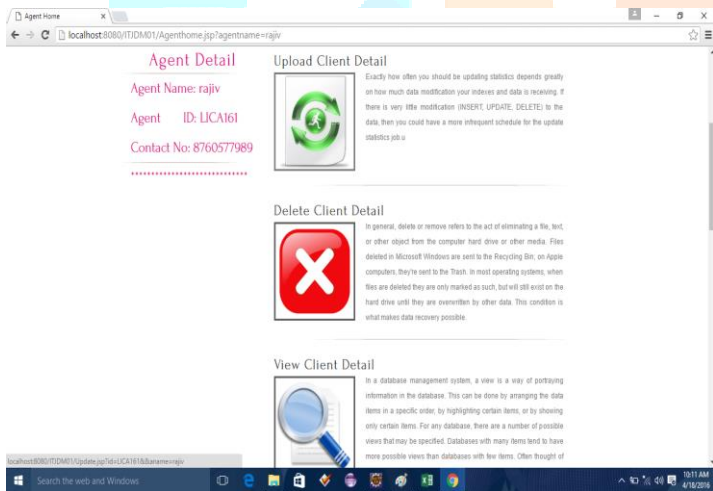**Fig 6: Search Based Result**

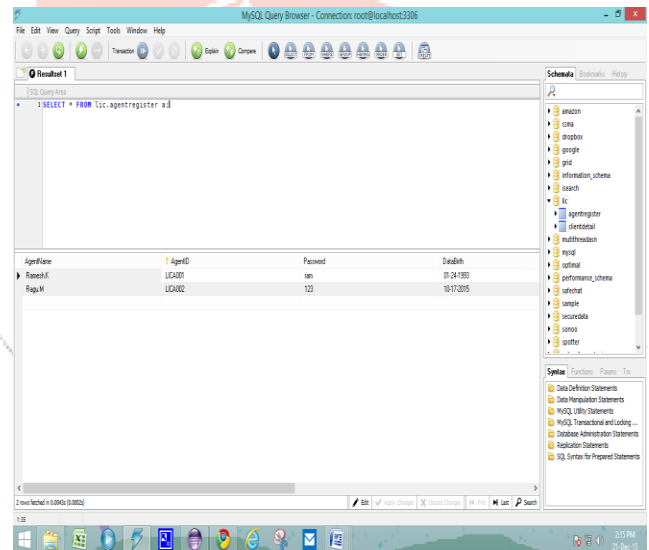

Fig 5: Upload client details

Fig 7: Saving the query

Conclusion:

In this paper we have implemented the secure classification data using KNN classification algorithm.This paper presents security of encrypted data for a query using secure multiplication technique.This paper uses classification technique which identify the data related to the query.

References:

1.P. Mell and T. Grance, "The nist definition of cloud computing (draft), NIST special publication" vol. 800, p. 145, 2011.

2. A. Shamire, "How to share a secret" Commun. ACM, vol. 22, pp. 612-613, Nov. 1979.

3.Subodh Gangan , "A Review of Man-in-the-Middle Attacks"

4.Martenvan Dijk and Ari Juels , "On the Impossibility of Cryptography alone for Privacy-Preserving Cloud computing".

5. 4.C. Gentry, "Fully homomorphic encryption using ideal lattices" in ACM STOC, pp. 169-178, 2009.

6.Y. Lindell and B. Pinkas, "Privacy preserving data mining" in Advances in Cryptology (CRYPTO), pp. 3654, Springer, 2000.

7. R.Natarajan1, Dr.R.Sugumar, M.Mahendran and K.Anbazhagan, " A survey on Privacy Preserving Data Mining " International Journal of Advanced Research in Computer and Communication Engineering, Vol. 1, Issue 1, March 2012.

8. Justin Zhan,LiWu Chang and Stan Matwin, "Privacy Perserbing K-nearest Neighbor Classification" International Journal of Network Security ,Vol.1 No,1,PP.46-51,July 2005.

9. D.Kerana Hanirex, Dr.K.P.Thooyamani, Dr.V.Khanaa,"Performance of Association Rules for Dengue Virus Type1 Amino Acids using an Integration of Transaction Reduction and Random Sampling (TRRS)Algorithm",IJPSR,Thomson Reuters - Web of Science,ESCI,Vol.8,Issue 6,June 2017.

10. D.KeranaHanirex,Dr.K.P.Kaliyamurthie," Finding the Dominating Amino Acids in Dengue Virus (Type -1) Study on mining frequent itemsets", Int. Journal of Pharma and Bio Sciences, July 2013,Vol 4(3),pp. (B) 880 – 889.

11. D.Kerana Hanirex, Dr.K.P.Kaliyamurthie, "An Adaptive Transaction Reduction Approach for Mining Frequent Itemsets: A Comparative Study on Dengue Virus Type1",Int Journal of Pharma and Bio Sciences April 2015, 6(2), pp.(B) 336 – 340.

12. D.Kerana Hanirex, Dr.K.P.Kaliyamurthie, Dr.A.Kumaravel, "Analysis of Improved TDTR Algorithm for Mining Frequent Itemsets Using Dengue Virus Type1 Dataset: A Combined Approach",Int Journal of Pharma Bio Sciences, April 2015,6(2), pp. (B) 288 – 295.

13. D.Kerana Hanirex, Dr.K.P.Kaliyamurthie, "Mining Frequent Itemsets Using Genetic Algorithm", Middle-East Journal of Scientific Research, February 2014, Vol 19 (6), pp. 807-810.

14. D.Kerana Hanirex, Dr.K.P.Kaliyamurthie, "Multi-Classification Approach for Detecting Thyroid Attacks", Int. Journal of Pharma and Bio Sciences, July 2013, Vol 4(3),pp. (B) 1246 – 1251.

15. D.Kerana Hanirex, Dr.K.P.Kaliyamurthie,"Mining Frequent Itemsets in Association Rule Mining Using Improved SETM Algorithm",Springer :Artificial Intelligence and Evolutionary

Computations in Engineering Systems,Volume 394, Springer Advances in Intelligent Systems and Computing , February 2016, pp. 765-773.

16. D.Kerana Hanirex, "An Efficient TDTR Algorithm for Mining Frequent Itemsets", International Journal of Electronics and Computer Science Engineering (IJECSE), December 2012, Volume 1, Issue 1 ,pp. 256-261.

17. D.Kerana Hanirex," A Comparative Analysis on Mining Frequent Itemsets", International Journal of Advanced Research in Computer Science and Electronics Engineering (IJARCSEE), December 2012, Volume 1, Issue 10, pp. 68-71.

18. D.Kerana Hanirex, Dr.A.Kumaravel," An Efficient Partition and Two Dimensional Approach for Mining Frequent Itemsets", International Journal of Technological Synthesis and Analysis (IJTSA), December 2012, Volume 1, Issue 1, pp. 14-17.

19. P.Kalaivani, D. Kerana Hanirex, Dr.K.P.Kaliyamurthie, "Survey on Secure Mining of Association Rules in Vertically Distributed Databases", International Journal on Recent and Innovation Trends in Computing and Communication, Vol 3(3), ISSN: 2321-8169, pp.1142 – 1144.

20. P.Kalaivani, D. Kerana Hanirex, Dr.K.P.Kaliyamurthie, "Association Rules Mining in Vertically Distributed Databases", International Journal of Innovative Research in Computer and Communication Engineering, March 2015, Vol3(3),pp.2273-2280.

21. E.Deenadayalan ,D.KeranaHanirex, Dr.K.P.Kaliyamurthie"Association Rule Mining in Distributed Database System", International Journal of Computer Science and Mobile Computing(IJCSMC), April,2014,Vol3,Iss 4, pp.727-732.

22. D.Kerana Hanirex, Dr.M.A.Dorai Rangaswamy," Efficient Algorithm For Mining Frequent Itemsets Using Clustering Techniques", International Journal on Computer Science and Engineering (IJCSE), March 2011, Vol. 3, No. 3 pp. 1028-1032.

23. A.Saranya, D.Kerana Hanirex,"High Utility Itemset mining using UP growth with Genetic Algorithm from OLAP system", International Journal of Computer Technology and Applications, March 2015, ISSN: 2229-6093,Vol 6 (2),pp.235-239.

24. A.Saranya, D.Kerana Hanirex,"Extraction of High Utility Itemsets using Utility Pattern with Genetic Algorithm from OLTP System",International Journal on Recent and Innovation Trends in Computing and Communication ,March 2015, ISSN 2321-8169,Vol3(3),pp.1326 – 1331.

25. A.Saranya,D.Kerana Hanirex," Mining High Utility Itemsets using UP Growth with Genetic Algorithm from Data Mart", International Journal of Engineering Research and General Science, March 2015,Vol 3(2),pp.1358-1363.

26. D.Kerana Hanirex, Dr.K.P.Kaliyamurthie,"Mining Frequent Item Sets for Association Rule Mining in Relational Databases: An Implementation of SETM Algorithm Using Super Market Dataset", Indian Journal of Science and Technology, November 2015,Vol 8(31),pp1-5.

27. D.Kerana Hanirex, Dr.K.P.Kaliyamurthie, Mining Frequent Itemsets in Association Rule Mining Using Improved SETM Algorithm,Springer: Artificial Intelligence and Evolutionary Computations in Engineering Systems, (2016),Volume 394 , Advances in Intelligent Systems and Computing Series,pp 765-773.