

CLOSEST NEIGHBOR SEARCH FOR HOTEL RECOMMENDATION BY MULTIPLE KEYWORDS

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ABSTRACT

The searching of nearest neighbor is based on basically k-NN algorithm. In this system the k-NN algorithm is used for finding the closest location which is satisfying the user requirements by fetching the data from the stored database. In the earlier days the nearest neighbor retrieval was based on spatial index. The spatial index algorithm was having some drawbacks like space and time complexities. Also there was less speed for execution and not much user friendly. Our system uses Boyer Moore Horspool algorithm for pattern matching that is matching the keywords given by user with existing database. The main goal of this system is to find out the closest location from the user's current location with fulfilling all the user entered menus for the hotels. For example instead of mentioning the name of the hotels search for menus required. For example if user searches for "Biryani, Paneer tikka, Chinese" then the system searches for these keywords and matches with database. And recommends the list of hotels with highest priorities. This system deals with multidimensional keywords and gives the response of all nearest neighbors in real time.

Keywords : - Nearest Neighbor Search, Boyer Moore Horspool Algorithm, k-NN algorithm, Multiple Keyword Search

1. INTRODUCTION

Today the trend is to build such a software that support the real time concepts, which are used to improve and provides immediate access to different attributes depends on different selection criteria. The spatial index algorithm which is explained in base paper is capable of taking inputs (multidimensional) from the user. So that exactly one location can be find out with respect to that input keywords. But it was having some drawbacks to deal with current smart environment. So now we have introduced the Boyer Moore Horspool algorithm. This algorithm is capable to overcome all drawbacks of previous system in better way. For example locations of different hotels, restaurants and so on can be described as vertices in a map. By introducing Boyer Moore Horspool algorithm and k-NN algorithm, the time and space complexities can be reduced than previous system. The proposed system can be used for advertising and marketing purpose.

2. LITERATURE REVIEW

Yufei Tao, Cheng Sheng[1] in 2016 proposed a system used for searching location in minimum amount of time. HimaGiriNandini, K.Ravi Kumar[2] in 2015 described a technique spatial inverted index which is an extension of traditional inverted index using multidimensional data with minimum responsive time. C.Usha Rani, N.Munisankar[3] in 2014 introduced the spatial queries jointly and returns only user specified number of optimal results and implemented cache based approach.

Xin Cao, Lisi Chen, Gao Cong, Christian S. Jensen, QiangQu, Anders Skovsgaard, Dingming Wu, and Man Lung Yiu[4] in 2012 provides a scheme to achieve spatial keyword querying functionality relevant to user and can be supported efficiently. Xin Cao, Gao Cong, Christian S. Jensen [5] in 2010 proposed prestige-based concept relevance to capture both textual relevance of objects to query and effects of nearby objects. Eric Chu, AkankshaBaid, Xiaoyong Chai, AnHai Doan, Jeffrey Naughton [6] in 2009 proposed address challenges that arise in form generation, keyword search over forms, ranking and displaying these forms.

3. WORKING

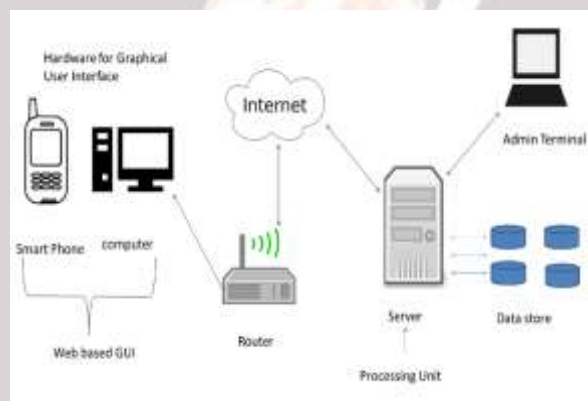


Fig -1: Architecture Diagram

Customer should register himself using the devices like smart phone, computer or any web based GUI for the registration. After registration user can insert multidimensional keywords on GUI. Then this information will transfer to server via router and server, server is main processing unit he process the data. Server send the acknowledgment to the admin terminal and admin process the data, admin gives the result to the server. For finding out user's location using map and according to that gives nearest location to the user. For data storage we use MySql software. The data gets stored in the form of tables. At last the user will get the locations which he requested.

3. SUMMARY

All the attributes (multidimensional keywords) are taken by the user and the system stores that keywords in the databases. Then by retrieving information from existing dataset, the user gets recommendation for exact nearest location.

SI index algorithm is an efficiently minimizes the space and time complexities.

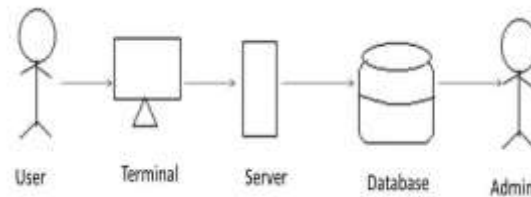


Fig-2: Flow of System

4. CONCLUSION

The newly proposed system works as a search engine which is able to efficiently support the user to find out nearest location in minimum amount of time with the keywords search.. The existing system had some disadvantages like space consumption or unable to give real time solutions. The proposed system gives better results by using an algorithm called as Boyer Moore Horspool algorithm. Also k-NN algorithm is used for searching the closest neighbor. It is not only space efficient but also has ability to search nearest neighbor in milliseconds of time.

6. REFERENCES

- [1]. Yufei Tao, Cheng Sheng. Fast nearest Neighbor Search with Keywords. Ieee transaction on knowledge and data Engineering 2016
- [2]. B. HimaGiriNandini, 2K. Ravi Kumar. SII: Improving Query Responsive Time to find Spatial Objects with keywords. International Journal of Research in Computer and Communication Technology, Vol 4, October-2015
- [3]. C. Usha Rani, N.Munisankar. Spatial Index Keyword Search in multidimensional database. (IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 5 (5), 2014
- [4]. X.Cao, L.Chen, G.Cong, and C.S.Jenesen, and Q.Qu, A.Skovsgaard, D.Wu and M.L.Yiu. Spatial Keyword Querying. In ER, pages 16-29, 2012.
- [5]. X.Cao, G.Cong, and C.S.Jensen. Retrieving Top-k prestige based relevant spatial web objects. PVLDB, 2010.
- [6]. E.Chu, A.Baid, X.Chai, A.Doan and J.Naughton. Combining keyword search and forms for Ad Hoc querying of databases. In proc. of ACM management of data (SIGMOD), 2009.