ISSN: 2278 – 7798
International Journal of Science, Engineering and Technology Research (IJSETR)
Volume 2, Issue 1, January 2013

A SURVEY ON QUERY AND KEYWORD SEARCH IN DATABASE

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***Abstract*— Nowadays database are large and also the complex one which consisting of many entities. The users are interested to retrieve the information from the database by using SOL queries but all the user are not familiar with SQL knowledge, so the keywords are used for searching the entities from the database without any knowledge about the schema and as well as query language. By using keyword search the results are produced but it may irrelevant to the user's need ,so with keywords the incremental query construction is discussed.**

***Index Terms*—Database, Keyword Search, Query Construction, SQL Queries.**

I. INTRODUCTION

Database is organized as collection of data. Some Examples of databases are airline reservation system, motor vehicle registration records, Telephone book etc… Here the data can be defined as unprocessed information. Information is data that have been organized and communicated in a coherent & meaningful manner. Data is converted into information and that information is evaluated and organized as knowledge. The utilization of the database is distributed over a large area Organizations and companies are also purely depending on the databases & its operations. The users are expressing their information needs in the database by using the structured queries but the query construction is a tough & capable of making error which will not be efficiently performed by the end users.

A database is only as useful as its query interface allows what the user wants. If a user is unable to convey to the database what he or she wants from it, even the richest data store provides little or no value. Writing well-structured queries, in languages such as SQL and XQuery, can be challenging due to a number of reasons, including the user's lack of familiarity with the query language and the user's ignorance of the underlying schema. With the growth of the World Wide Web, there has been a rapid increase in the number of users who need to access online databases without having a detailed knowledge of schema or query languages; even relatively simple query languages designed for non-experts are too complicated for such users. Database query is piece of code that is sent to a database in order to get information back from the database, queries are constructed using SQL. The term query means to search, to question or to find. Different query language exists for different type of database.

Manuscript received Jan 5 , 2013.

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Structured queries are a strong tool to describe the user's informational need and that can be retrieved from the database. But, manual creation of a structured query is a tough and error prone task. It requires the very well knowledge about the database schema and also in a query language. Keyword search can be performed efficiently by novice users, it does not query construction skills and knowledge about the database .it has less expressiveness so it provides irrelevant and incomplete results.

The web having huge repository of documents, attracts million of users globally to search for the information needed by them using simple keywords. With the advancements in the internet technologies, usage of web has increased exponentially. And now more data that are stored in databases are also available in the web. Normally users search these databases to find some useful information based on the domain knowledge and so they know what they want. But they don't know the content of the databases. And it is a normal human tendency to compare between information's that are available. So to understand the actual contents, the user starts exploring the details with broad queries. This will result in more tuples from which the user has to compare and find the small set of tuples he need. For some queries we can order the results using sorting technique. But there are many results which cannot be ordered using any technique and the user has to view the whole result set to understand the contents

It is not easy for even an expert to extract the actual information hidden in the dataset without doing some processing. So the big challenge is to provide minimum processed contents that give an overall view of the total result set and by exploring the contents the user should be directed towards their purpose of search. So the incremental query construction technique is introduced.

II. TECHNIQUE USED FOR KEYWORD SEARCH IN DATABASE

A. SQAK: Doing more with keywords

Doing more with keywords proposed a frame work SQAK. SQL aggregates using keywords here the user are giving the simple keywords without the knowledge of the database. The framework provides the result with the aggregate of the simple keyword queries, it does not change the structure of the database engine, in any type of database it can be used. It is very effective for the users which thus don't have any knowledge about the schema.

Here powerful aggregates are building by with the simple keywords. Keyword queries are translated to queries are translated to queries from the subsystem by this unambiguity is achieved. This type of subset is reduced SQL.

In the user interface user provide the user words. Then the parser and analyzer parse the query and translate into candidate interpretations. This will be given as inputs to the SANs are given to the interpretations the weight of each node is calculate the match scorers.[5]

2 algorithms are used i)algorithm for finding SQN ii)procedure expand all by one edge. The first algorithm starts with partial solution (ie temp) ,then it find CI which is shortest to the temp, iteratively it add the nodes, if it is violated the algorithm will backtracks the last node which is added .that will be discarded .in second algorithm locates the nodes iteratively to locate CI which is current node to the solution.

By this SQAK, the ordinary users can perform sophisticated queries on any type of database without any knowledge schema and SQL skills.

B SUITS: Faceted User Interface for Constructing Structured Queries from Keywords

SUITS allow users to start with arbitrary keyword queries, refine that keywords incrementally by following the suggestions which is given by the system and at last,obtain desired structured queries. Keyword search, is developed for retrieving documents from the database, which is very convenient for accessing unstructured data. However, keyword search leaves users with less expressiveness to describe their information needs. So the users can not find relevant and complete results.

The query processing of SUITS can be split into two phases: an off line pre computing phase and an online query phase. [1]In the first phase, SUITS creates inverted indexes for all text columns in the database. It also generates query templates that are potentially employed by users when forming structured queries. The complete queries and partial queries constructed from a set of keywords can be organized in a hierarchy. At the bottom of this hierarchy are the smallest partial queries composed of only one keyword and one attribute. In the middle are partial queries that join two or more keywords together. At the top, complete structured queries involving all keywords are located.

In the query construction, the system first provides some small set of partial queries to the user. The user can select partial queries from the option, so the need information can be taken. Therefore, the system can remove from the query hierarchy all the complete queries not containing that partial query. Later on, the system presents another set of partial queries to the user for selection. Until find the desired result by the user this process will be continued.

C From Keywords to Semantic Queries Incremental Query Construction on the Semantic Web

Constructing queries by the user is error prone and also need knowledge about the schema. Here, QUICK combines the easy way of keyword search with the expressivity of semantic queries. Users start with a keyword query and then are guided by the incremental refine steps, semantic queries from keywords and algorithms to generate near-optimal query construction, a system for guiding users in constructing semantic queries from keywords.

QUICK , a system for querying the semantic data. It internally works on pre-defined domain-specific ontologies. A user starts by entering a keyword query, QUICK then guides the user through an incremental construction process, which quickly leads to the desired semantic query. This system consider the user as having only basic knowledge so it does not expect the knowledge about the ontologies and query The system defines a framework for incrementally constructing semantic queries from keywords, the algorithms to generate near-optimal query construction for optimizing the execution of full-text queries on RDF data. (1) the root of QCG(query construction graph) represents the complete set of queries in SQ(semantic query),(2) each leaf node represents a single semantic query in SQ,(3) each non-leaf node represents the union of the semantic queries of its children,(4) each edge represents a partial query,(5) the partial query on an incoming edge of a node subsumes all the semantic queries represented by that node.

D Explaining structured queries in natural language

In this paper presents the graph-based approach for the query translation problem, the different structured queries is represented as directed graphs. The edges are denoted by template labels using the extensible template mechanism. The graph traversal strategies are used for textual query description.

The translation of user's choice to the some format, it will help to form the query correctly without familiar with any query language. Explaining the queries in text is useful because the user can use structure query language to write the queries. Here users are trying to understand error which is related to their query.[4]

For the translation three methods are used

BST Algorithm
MRP Algorithm
TMT Algorithm

It consists of composition of clauses which focuses the query semantics. This translation is done the information of all the query graph combines together. For the concise translation the predefined, richer query templates are used. The algorithm describes the semantic associations among the entities which is present in the database that provides the abstraction level over database schema.

E Minimum-Effort Driven Dynamic Faceted Search in Structured Databases

Minimum-effort driven navigational techniques uses the faceted search paradigm for the enterprise database system. This technique drilling down the facets from the database dynamically, so the navigation cost is minimized. Here, many steps are followed, so in every step the system will ask set of questions to the user for every different facets then depending on the user response it drill down the set of facets which is matches to the response, and the process repeats. Then the Facets are selected based on their ability to rapidly drill down to the most exact tuples. The facet selection algorithms also work in conjunction with ranked retrieval model and produce very appropriate tuples.

User interactions are translated to structured queries and executed. Graph based approach is used for the query translation problem. Here structure queries are represented by the directed graphs; edges are annotating the query templates. An algorithm that can capture important semantic associations between entities in the database providing an abstraction level over the db schema. It explains about the translation of sql queries to text, here various forms of structured queries are represented by the graphs.

III. Conclusion

Thus the concepts used for searching the information from the database is analyzed, instead of using structured queries the keyword is used with incremental query construction for the efficient search and user friendly.

ACKNOWLEDGMENT

The authors would like to thank the Editor-in-Chief, the Associate Editor and anonymous Referees for their comments.

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BIOGRAPHY

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