International Journal of Applied Engineering Research
ISSN 0973-4562 Volume 10, Number 11 (2015) pp. 29201-29208
© Research India Publications
http://www.ripublication.com

Ranking Based Dynamic Query Forms For Database Queries

S. Naresh
M.tech 2nd year, Computer Science and Engineering
Sree Vidyanikethan Engg. College
Tirupathi, AP, snaresh.s909@gmail.com
B. Gurunadha Rao
Assistant Professor, Computer Science And Engineering
Sree Vidyanikethan Engg.College, Tirupathi,AP
gurunadhkcd@gmail.com

Abstract

As the Environment of Internet continues to grow the users of searching the data also increases. By this development of web information and scientific databases it is not able to get user require results with the static query forms. The Dynamic Query forms are able to dynamically generate query forms with the selection of user interested components and rank the query form components. The creation of query forms is an iteration process and user selects interested components in iteration process. The form components ranking are based on the user interest and F-measure is used to measure the query form goodness. The incremental hierarchical data clustering framework is used to capture the user's interest based on click feedback to input some keyword queries.

Key words: Query forms, Query form generation, Keyword queries

Introduction

Database is a group of related data which can access quickly and similarly it can hold the description of data. We can get the data from tables based on the needs of the user .To access the data from the database we can use the queries as basis query forms. Based on user needs the query forms are defined by the designer. Presently there are many static query forms and database management tools such as MS Access, SAP and Easy. By these static query forms and tools the user does not get the accurate results based on the user needs.

Dynamic Query Forms is provides an interface to the users to perform the query form actions on the database. Generally dynamic query form has some attributes of the database. Each and every query form generation is kind of process of selection attributes from the database. In dynamic query form user queries can be refines each and every iteration. It will also generate the rank list for these dynamic query forms. The dynamic query should acts as a interaction between the user and system, till the user get intended results. The main role here is to provide the query forms as per the user needs and quality of the query form is measured by applying the measuring mechanism F-Measure.

The interaction between the user and Dynamic query form can be performed in query form enrichment and query execution. The query form components that can be represented in ranked list in dynamic query form enrichment phase based on required form components into current query form and in the execution phase the user fill the form and submit the results to the database.

Related Work

Non-Expert users have a one of the important topic regarding relational data. Lot of research work done which implies to the users to query the relational database. In order to querying of database produces a lot of query ahead of time by using the keywords. The input is database and then generates and indexes a set of query forms. Currently query forms are using in the real world business and even in the scientific information systems also.

Automatic Static Query Form

In this query form the query creation possible without user involvement. It finds the data attributes which are almost similar to the database schema [1]. It applies the cluster algorithm also on the historical data of queries. The problem with the previous mentioned query forms is user feel difficulty when the composition of queries is complex. Considering all these things still there are some issues on user query forms. One more issues while testing how the users can get an exact query forms and the contents of the query in the sense structure of it is.

Keyword Search With Query Form Generation

In the future it creates good deal of query forms. The user has to provide some keywords [2] to get the query forms from the large databases. The database that contains information in the form of rich text as data schemas and tuples works well. Again we can understand one difficulty with this user doesn’t have appropriate keywords to start.

Auto Completion of Database Queries

In this user interfaces produced [3] to help the user to maintain the orderings of the queries. The manifestations of SQL and decisive words are the most implied things from user on query forms. Finally user can concentrate to create the query forms by using mentioned things.

Query Refinement

This method is a kind of procedure utilizing by the data recovery areas. When the terms or keywords used it will fetch from the database to match the user formation of the query like search engine because it is an arrangement of data items.

Dynamic Faceted Search

This mechanism is an arrangement of search engines as per the user navigation paths where important things come into picture. Dynamic faceted are like DQF when we select the components in a query. Other than this selection of components the structure of the database query has important components. Based on this components he manipulation of query forms have been done.

Database Query Recommendation

Recently studies there are many ways to explore the database in order to recommend the query forms. SQL queries play a vital role to recommend the user related queries as per their intendment. However they are not considering the quality of query forms much. Here is another method to recommend based on query results. The differences between these two strategies are each and every loop will provide the query component but in the other hand of previous recommendation is providing complete query.

Motivation

The customized query form creation is totally depends on user. The user does not know the database construction in advance then user can get confused by the attributes of database. Here the database support query retrieval model gives back all tuples that fulfill the conditions in the query. The point is not selective an excess of tuples may be in the answer.

In this component to dynamically generate query forms the Dynamic Query Form provides a query interface to users. It is varied from data retrieval of document users are regularly many rounds of actions that can be performed in database. The Dynamic query form is used to interaction of user. The two sorts of user's connections: Query Form Execution and Enrichment. The structure of the query form contains attributes that are in the database and query form is improved by means of interaction between user and system till user is fulfilled.

Problem Definition

The scientific and web database can maintain large amount of data and these databases contain more no of attributes and relation. The ad-hoc query is not fulfilling the user requirement by the previous query forms.

The main problems are

- The user requires data that does not get by the static Query forms from the database.
- The user is confused by the no of attributes in the database schema

- The user how to get the desired form from the large no of query forms that should be difficult non expert users.
- The user how to get the appropriate and desired form that should be challenging from the large no of query forms.
- The user does not get the ad-hoc query details on the complex of the database.

Statement of The Problem

For querying the database we can use the Query forms in data base queries. The instant queries that can be rise from the user and it cannot be fulfilling the user requirement on large databases. So the Dynamic query form with Keyword Search a database is query form interface dynamically generate query forms. The Dynamic query form gives guidance’s to the user and fulfill the user requirements. The creation of a query form is an selection process of the user. The system produces form component ranks and adds the user selected components to query form. The queries are achieved based on the user interest by adding click feedback text box is added for users to input some keyword queries.

Problem Formulation:

Dynamic query form is used to dynamically generate query forms in order to fulfill various instant queries from the users. Here the algorithms Query construction for generate and One-Query methods for estimate the F-Score is induced a query condition and incremental clustering for grouping the data sets in database.

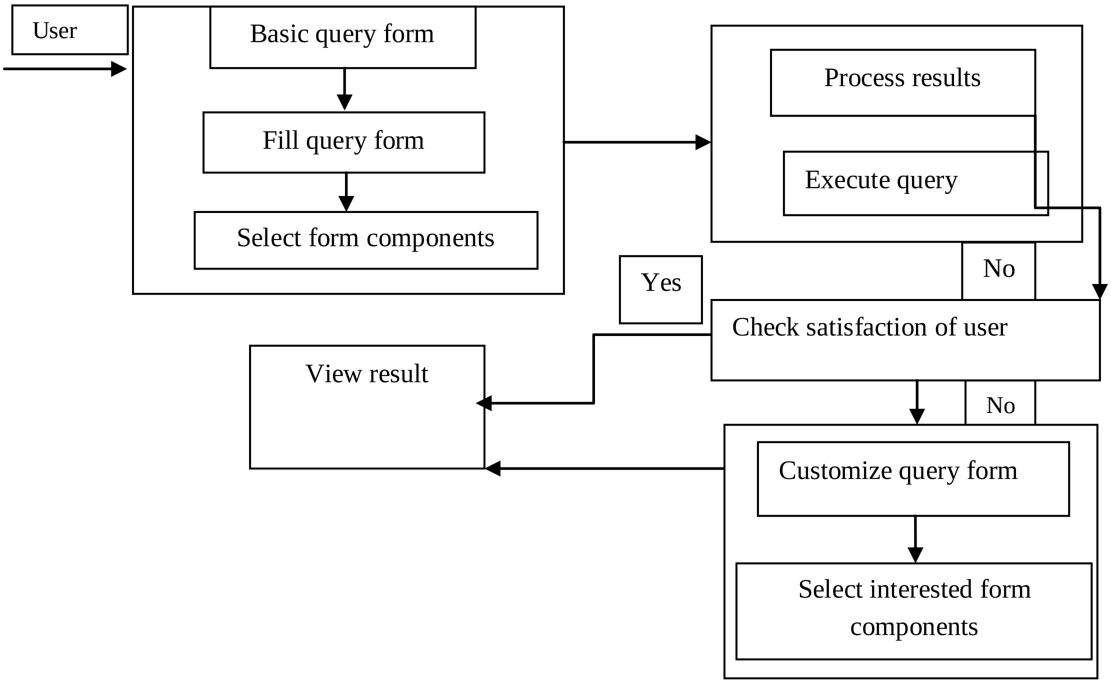


Figure: The architecture shows the dynamic query form for database queries

The architecture shows the dynamic query form interface to the user. The query form contains many fields to the user for filling the attributes those he or she want to view. In addition with the attribute the user is provided a constraint specification field by using that capability the user can easily make conditions. Every entry to the form is taken as input to the database.

Mathematical Model:

The Query forms are used to get user required results from the database. The quality of the query forms are evaluated by using precision and recall. Here the users are using different query forms to get required data from the database so different results that can be achieved by expected precision and expected recall is used. Query structures are intended to give back the user coveted result. The calculation of rank score is performed in two phases. The first phase is entities ranked list and second is list of ranked attributes of entities. Query structures have the capacity to deliver distinctive query by diverse inputs and distinctive questions can yield distinctive question comes about and accomplish distinctive results, so by utilization of measures would assess the normal execution of question structure.

$$PrecisionE(F) = \frac{\sum_{d\in XAf} Pc(dAf)P(dAf)P(\alpha f|d)N}{\sum_{d\epsilon XAf} P(dAf)P(\alpha f|d)N} \tag{1}$$

$$RecallE(F) = \frac{\sum_{d\in XAF} Pc(dAf)P(dAf)P(\alpha f|d)\mathrm{N}}{\alpha\mathrm{N}} \tag{2}$$

By using these measures is used to get the expected performance of query and calculation of F-Score. Here β is used as a constant parameter to control the user preferences.

$$F\beta = (1+\beta 2).\frac{precision\ .\ recall}{(\beta 2\ .precision) + recall} \tag{3}$$

The calculation of ranking score is an entity is by the averaged F-Score(F_i). Rank score is used to calculate the accuracy. Initially the user select the components from more no of components and the ranking is calculated for selected components has the highest rank.

$$Rankscore(Q, Aj) = \frac{1}{log(r(Aj))+1} \tag{4}$$

Algorithms

The algorithm is used for generation of query form and sort the best query. The F-Score performance is evaluated in one-query construction. The usage of one query first sort the values of attributes and calculate F-Score. Based on the set of projection attributes and selection expression is generate the database queries based on Generate query function.

One-Query algorithm:

Input: Here α is instances select the by user, X_{Qone} is result of Q_{one}.

Output: Here finds the query condition of A_s is s^*.

Step1: First we sort the values of X_{Qone} and A_s into an ordered set X_{sorted}.

$X_{sorted} \leftarrow Sort(X_{Qone}, A_s)$

```
Step2: Initialize the values of best query condition to ∅ and Fscore$^*$ to 0.
s∗ ← ∅, fscore∗ ← 0

Step3: Initialize the values of no of data instances to zero and $\alpha\beta^2$ to data instances.
n ← 0, d ← $\alpha\beta^2$

Step4: calculate the sorted values
for i ← 1 to |$X_{sorted}$ | do
d ← $X_{sorted}$ [i]
s ← “$A_s \leq d_{As}$ "

Step5: Compute the F-Score if $A_s \leq d_{AS}$
n ← n + $Pc(d_{Afi})P(d_{Afi})P(\sigma_{fi} |d)P(s|d)$
d ← d + $P(d_{Afi})P(\sigma_{fi} |d)P(s|d)$
Fscore ← $(1+\beta^2)$ .n/d

Step6: Compare the FScore as
If Fscore ≥ Fscore* then
s* ← s
Fscore* ← Fscore
end.
```

Results

User enters the details to the database by selecting different attributes from the dynamic query form and submits the data to database.

Different no of user’s login:

Name	Password	Email	Dob	Gender	Location	Code
Smith	Smt11	sm@gmail.com	1/11/1993	M	Aus	Ap12
Sai	Sai_1227	sai@gmail.com	31/07/1990	M	Tpt	Cuv12
Na	123	na99@gmail.com	16/5/1992	M	Rct	125aW
Jhon	J199	Jhon02@gmail.com	2/2/1991	M	Hyd	Jh02a
Sri	999	Sri123@gmail.com	1/11/1989	F	Atp	123de

Query form order by rating:

Form name	Username	Rating	Ranking	View form
Form1	Sai	Outstanding	1	View
Form2	Jhon	Outstanding	1	View
Form3	James	Average	2	View
Form4	Na	Average	3	View
F1	Smith	Null	Null	View

In Query form user can select different forms and attributes:

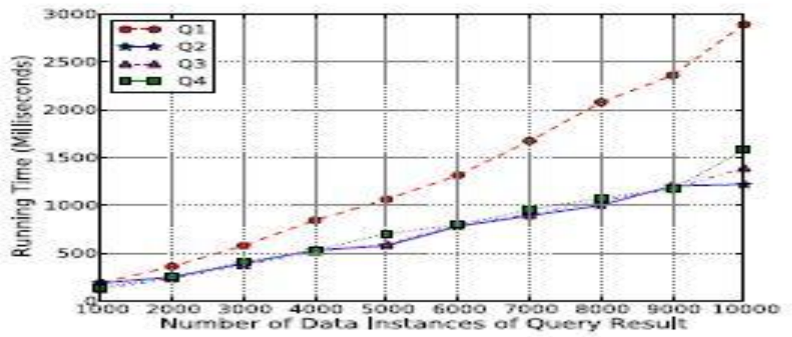
User name	Email	Form name	Rating	Ranking
Na	na99@gmail.com	Form4	Average	3
Sai	sai@gmail.com	Form1	Outstanding	1
Jhon	jhon02@gmail.com	Form2	Outstanding	1
Smith	sm@gmail.com	F1	Null	Null

The ranking of the user suggest the selection components of the database. Whenever the user selects the query form creation on the data ranking score is created.

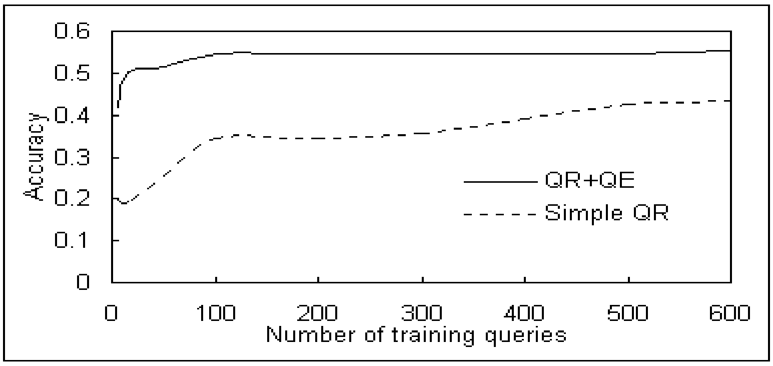
Comparison of Results:

The various results regarding query form generation is given below.

Time for the no of data instances is performed:



Accuracy of the training queries is:



Accuracy of the training queries

Conclusion

The paper gives dynamically query form generation for the database queries. Here the main idea is the rank the query form components based on user interest. To capture the user interests based on historical queries and click through feedback. The experimental results show that dynamic query form leads higher success than static query forms. The ranking is also makes easier for user selection in the query form attributes.

References

[1] M. Jayapandian and H. V. Jagadish, "*Automating the design and construction of query forms,"* IEEE Trans. Knowl. Data Eng., vol. 21, no. 10, Oct. 2009, pp. 1389–1402.

[2] E. Chu, A. Baid, X. Chai, A. Doan, and J. F. Naughton, *"Combining keyword search and forms for ad hoc querying of databases,"* in Proc. ACM SIGMOD, Providence, RI, USA, Jun. 2009, pp. 349–360.

[3] M. Jayapandian and H. V. Jagadish, *"Automated creation of a forms-based database query interface,"* Proc. VLDB, vol. 1, no. 1, Aug. 2008, pp. 695–709.

[4] C. C. Aggarwal, J. Han, J. Wang, and P. S. Yu, *"A framework for clustering evolving data streams,"* in Proc. VLDB, Berlin, Germany, Sept. 2003, pp. 81–92.

[5] S. Agrawal, S. Chaudhuri, G. Das, and A. Gionis, *"Automated ranking of database query results,"* in Proc. CIDR, 2003, pp. 888–899.