Survey on Query Generation with User Specific Dynamic Query Form

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ABSTRACT: Today web users have been increased and still they are increasing day by day as web services enhancing. All databases of the complex application are relational having huge number of relations and attributes. But as web services are increased, their information is also increased so with this increase information database is not able to provide user expected result with static query form. This can be done with the help of dynamic query forms. With the help of Dynamic Query Form(DQF)user will get the interface to tackle large and complex relational database. User can give the preferences during the interaction with DQF system. Query forms are iteratively generated once user select the attributes in the tables. Ranking of the query form is based on the user feedback and it get continuously changed as per the user feedback. So with the help of the DQF user can create the sql queries without knowledge of the sql systax, these queries are get automatically generated once user submit the attributes.

KEYWORDS : Query Form, User Interaction, Query Form Generation, Query Form Enrichment, and Dynamic Query forms (DQF).

I. INTRODUCTION

To access the information from the database user have to use the Query Form interface to form the query. In most of the applications query forms are assembled and already defined by the developers and Database Admin. As database concepts are rapidly developing day by day and becoming very huge and complex. Some database companies like DBpedia, Freebase are having thousands of databases so it is difficult to design the static query form for them as they in huge size and complex. It is also difficult for static form to get proper response from those complex and huge database. There are many modern techniques or tools that allow user the define their customized query such tools are SAP, MSaccess. User can manually edit the query and develop the query as per the requirement. But is user is not familiar with the database then there will be confusion about syntax, relations, attributes. Non technical user also cannot write the query proper to retrieve the data from database. So all these becomes complex for the users who don't know the sql. Considering all these many researchers are focusing on providing interface for non technical users so that they can easily interact with database. This paper introduce the generation of dynamic query form for user at run time. It is different from the traditional data retrieval prior to notify the candidate or the user. A feature of dynamic query forms includes 1. Providing no sql platform or interface to the user.2.Iteratively query form generation.3.User feedback and based on the user feedback ranking will be generated.4.Automatic query generation as per user selection of attributes. Section 2 presents the literature survey over the related work. Section 3 gives in brief idea about the existing system and proposed system. Finally, the section 4 concludes the review paper.

II. LITERATURE SURVEY

Researchers focus is on database interfaces which assist users to query the relational database with no SQL. There are two most widely used database querying interfaces: QBE (Query by Example) and Query Form. Current studies and works mainly focus on how to create the query forms.
 1. M. Jayapandian and H. V. Jagadish, in their paper "Automated creation of a forms based database query interface," stated that various existing database management and development tools, such as EasyQuery, Cold Fusion, SAP and Microsoft Access, provide several mechanisms to let users create customized queries on databases. However, the creation of customized queries totally depends on user's manual editing. If a user is not familiar with the database schema in advance, those hundreds or thousands of data attributes would confuse him/her. It first finds a set of data

attributes, which are most likely queried based on the database schema and data instances. After that, the query forms are generated based on the chosen attributes [1].

2. M. Jayapandian and H. V. Jagadish, "Automating the design and construction of query forms," proposed a workload driven method. It aims to find the representative queries by applying the clustering algorithm. Based on those representative queries the query forms are generated. One problem of the aforementioned approaches is that, in case of lots of query forms generation in advance, there are still user queries which cannot be satisfactorily solved by any one of query forms. Another problem is that, when we create a huge number of query forms, it"s a difficult task to let users find an appropriate query form would be difficult. The Query interfaces play a vital role in determining the usefulness of a database. A form-based interface is widely regarded as the most user-friendly querying method. In this paper, they developed mechanisms to defeat the challenges that limit the usefulness of forms, namely their restrictive nature and the tedious manual effort required to build them. Specifically, they introduce an algorithm to generate a set of forms automatically given the expected query workload [2].

3. E. Chu, A. Baid, X. Chai, A. Doan, and J. F. Naughton, "Combining keyword search and forms for ad hoc querying of databases," provides solution that combines keyword search with query form generation . The solution is, in advance to generate a lot of query forms automatically. User can find relevant query forms from a large number of pre-generated query forms by giving it several keywords as an input. The user inputs several keywords to find related query forms from a huge number of previously generated query forms but it is not suitable when the user does not have real keywords to describe the queries [3].

4. S. Agrawal, S. Chaudhuri, G. Das, and A. Gionis, "Automated ranking of database query results," state that the results of a query is a popular aspect of the query model in Information Retrieval (IR) that we have grown to depend on. In contrast, database systems support only a Boolean query model. For instance, a selection query on a SQL database returns all tuples that satisfy the conditions in the query. Hence, the following two situations are not gracefully handled by a SQL system: Empty answer and many answer [4].

5. G. Chatzopoulou, M. Eirinaki, and N. Polyzotis, "Query recommendations for interactive database exploration," stated that now days there are numerous 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 an additional 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 [5].

6. C. Li, N. Yan, S. B. Roy, L. Lisham, and G. Das, "Facetedpedia: Dynamic generation of query-dependent faceted interfaces for wikipedia," Dynamic faceted search is a type of search engines where relevant facets are presented for the users according to their navigation paths. Dynamic faceted search engines are similar to our dynamic query forms if we only consider Selection components in a query. However, besides Selections, a database query form has other important components, such as Projection components. Projection components control the output of the query form and cannot be ignored. Moreover, designs of Selection and Projection have inherent influences to each other [6].

7. L. Tang, T. Li, Y. Jiang, Z. Chen, "Dynamic Query Forms for Database Queries," provides a solution that nontechnical users make usage of relational database which is a challenging task. Therefore, in modern years lots of researches were focused on database interfaces to help users to query the relational datab ases without use of SQL. This paper provides a Dynamic Query Form system (DQF), is a query interface able to dynamically produce query forms for the users. Unlike conventional document retrieval, before distinguishing the final candidate, the users in database retrieval are mostly willing to execute several rounds of action [7].

III. EXISTING SYSTEM

Web services are increased, their information is also increased so with this increase information database is not able to provide user expected result with static query form. So it is easy to develop the static query form to retrieve the information from huge and complex database.Fig.1 shows the flow of existing system. In the existing system when user fill the static query form then system will executes the query and produce the result as per the query. But in the existing process user cannot provide the feedback. This will work if the database is simple not much more complex but this will fails when database is complex and huge. For such database user involvement, feedback is necessary whether user is satisfy with result or not. In this case even though the developer has developed the lots of forms but they can't meet the user requirements. One more problem is that if developers generate huge number of query forms but the user cannot find the exact query form as per requirement and that will be challenging task. Solution for that is user can search the

form based on the keywords. Once user enters various keywords then the query forms will be searched as per the keywords. But what if user doesn't know the keywords. So this technique is also difficult and cannot be generalized for all kind of the users.
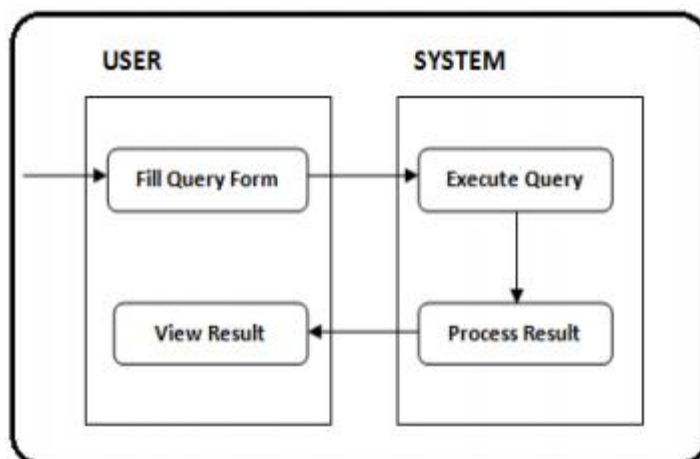

FIG 1 : EXISTING SYSTEM

IV. PROPOSED SYSTEM

DQF a query interface take the attributes from the user at the run time and generate the query form based on the user selection attributes. Once user generate the query then user often willing to change the or modify the query such as condition, attributes. These things are possible in DQF. Once the query gets run user can see the result and if the result is as per the requirement then user will give the feedback and as per feedback of the user ranking of the form is get generated. These ranking may get changes as many users can generate the same query or may refer the same form so as per the user feedback the ranking is generated. Query enrichment is modifying the existing query and query execution means system will generate the query automatically and execute it on respective database and provides the result.. The flow of proposed system architecture is shown in Fig. 2. It shows that there is a provision of requerying/feedback, if the user is not satisfied with the previous query result. The advantages of the above proposed system are as follows:

- The system helps user to dynamically generate query forms.
- As the system uses dynamic approach it provides higher success rate and simpler query forms compared with a static approach.
- It becomes easy for users to customize the query forms using the ranking based on user preferences.
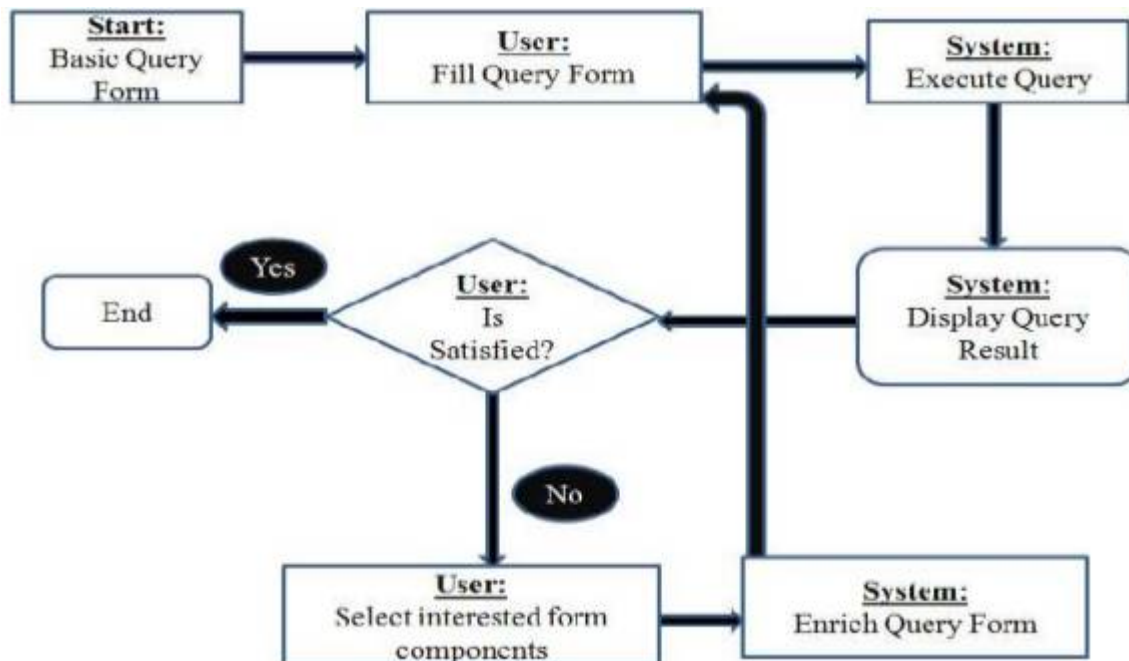
Fig 2: Proposed Architecture

V. CONCLUSION AND FUTURE WORK

This paper analyze the existing system to generate the query form and its drawbacks. Query interface will be easier for nontechnical user to generate the or to retrieve the information from database. It is most user friendly method with no sql for non technical users. In this query forms are dynamically generated at the run time. User can also give the feedback if results of generated query are not as per the requirement. Based on the feedback ranking of the form is get generated. So as compare to traditional method DQF will be easier tool for the user who are handling the huge and complex database.

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