IJARCCE

ISSN (Online) 2278-1021
ISSN (Print) 2319 5940

International Journal of Advanced Research in Computer and Communication Engineering
Vol. 5, Issue 3, March 2016

Ranking and Mapping of Hotels & Restaurants Using Approximation Algorithm.

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Abstract: Keyword queries on databases provide easy access to data, but often suffer from low ranking quality, i.e., low precision and/or recall, as shown in recent benchmarks. It would be useful to identify queries that are likely to have low ranking quality to improve the user satisfaction. For instance, the system may suggest to the user alternative queries for such hard queries. In this paper, we analyze the characteristics of hard queries and propose a novel framework to measure the degree of difficulty for a keyword query over a database, considering both the structure and the content of the database and the query results. We evaluate our query difficulty prediction model against one effectiveness benchmarks for popular keyword search ranking methods. Our empirical results show that our model predicts the hard queries with high accuracy. Further, we present a suite of optimizations to minimize the incurred time overhead. We also provide mapping methodology for hotels and restaurants which will be used for getting directions with the help of Google Maps.

Keywords: Query performance, query effectiveness, keyword query, robustness, databases,Google Maps.

I. INTRODUCTION

Keyword query interfaces (KQIs) for databases have attracted much attention in the last decade due to their flexibility and ease of use in searching and exploring the data. Since any entity in a data set that contains the query keywords is a potential answer, keyword queries typically have many possible answers. KQIs must identify the information needs behind keyword queries and rank the answers so that the desired answers appear at the top of the list. Unless otherwise noted, we refer to keyword query as query in the remainder of this paper. Databases contain entities, and entities contain attributes that take attribute values. Some of the difficulties of answering a query are as follows: First, unlike queries in languages like SQL, users do not normally specify the desired schema element(s) for each query term. For instance, query Q1: Burger King does not specify if the user is interested in food whose title is Burger King or Foods distributed by the Burger King Company. Thus, a KQI must find the desired attributes associated with each term in the query. Second, the schema of the output is not specified, i.e., users do not give enough information to single out exactly their desired entities. For example, Q1 may return foods or company.

II. LITRATURE SURVEY

Shiwen Cheng, Arash Termehchy, & Vagekus Hristidist al[1] is to predict the effectiveness of keyword queries over databases. It shows the current prediction method for queries over unstructured data sources cannot be effectively used to solve the problem. This paper set forth the principled framework and novel algorithms to measure the degree of the difficulty of a query of a database using the ranking robustness principle. Deepti S Deshmukh, , Simran Khiani.al[2] this paper has the frame work which shows Post retrieval methods which predict the difficulty of a query with computing its results. The computation the query prediction based on approximation algorithm gives the outcomes of corrupted database in re-ranked form.

A. **:** Basim Ali Razooqi al[3] **:** This paper focuses on main problem of retrieving appropriate top results for a keyword query and predicting the difficulty level of the query. In this paper, we analyze the properties of complex queries and measure the degreeof complexity of a keyword query over a database. We measured the degree of the complexity of a query over a database, using the ranking robustness principle. The framework efficiently predicts the effectiveness of a keyword query.

III. PROPOSED SYSTEM

The conceptual model of the system involves creation of a database driven web based application that can be easily deployed on all types of platforms and form factors. As a reason responsive web designing is adopted.

The web application will be divided into the following modules

1. Client side interface
2. Server side server to handle the client request
3. Container to store the business logic
4. Database to store information's of hotels and restaurants

In a nutshell the basic aim of the project is to create a keyword search engine application that will accept multiple keywords from the user. The proposed system will help to generate results and then the admin process the results and gives it to the user. It should promptly detect and recognise keywords from the database system, to create an excel sheet that will mark each keyword's presence or absence. This excel sheet is accessible by the

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respective admin and should be content editable in case some keywords are missed out or incorrectly identified
Finally, complete content and organizational editing before formatting. Please take note of the following items when proofreading spelling and grammar:

- The block diagram for this system is given as follows and is self-explanatory.

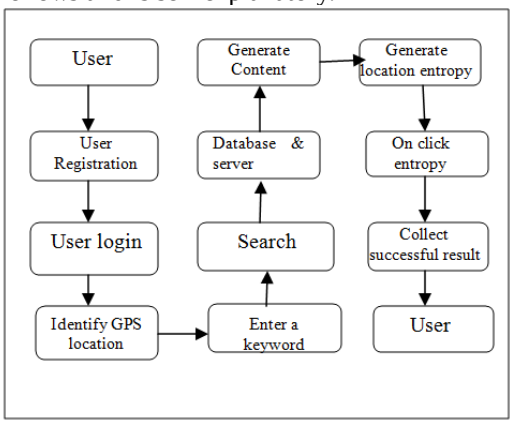

Fig 1: Proposed System.

Working of the system:
1. Admin Login
2. New Hotels and Restaurants Addition
3. Edit / Delete Old Hotels and Restaurants Database
4. Create Training Dataset
5. View & Authenticate Users
6. View Users Comments
7. User Registration
8. User Login
9. Search Hotels and Restaurants& View Result
10. Comment on Post

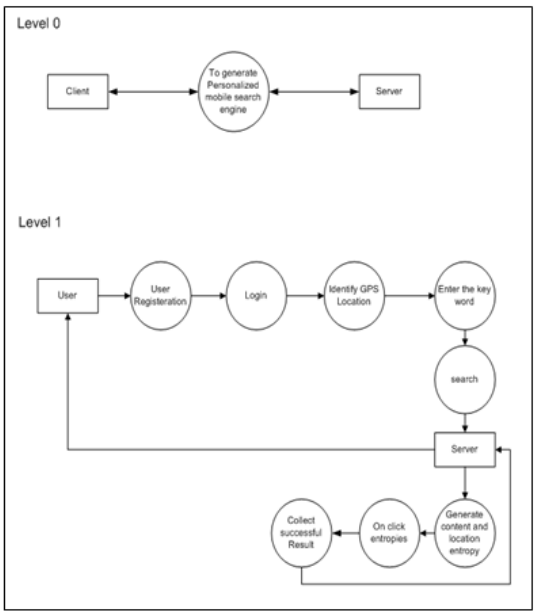

Fig 2: DFD level1 diagram of proposed system.

The technology and algorithms used for achieving this goal are explained next section.

IV. METHODOLOGY

4.1 Bootstrap

The client side interface is deployed using Bootstrap in this project is due to its HTML and CSS based design templates which can be customized according to the developers needs'. Bootstrap emphasizes on responsive web designing components so that the viewer is able to view the content comfortably according to his/her screen size, either a desktop or a mobile phone. Instead of creating a CSS sheet from scratch, bootstrap enables ready-made blocks of codes to be used which are available in LESS stylesheets. Also if a programmer is not comfortable then he/she can use the plain old CSS for customization. In addition to regular HTML elements such as topography, tables, images; Bootstrap enables designers to utilize advanced components such as drop-downs, navigation bar, alerts, progress bar, etc. Bootstrap has a core concept of pairing designers with developers, making it a faster process for developing Web applications. This front-end framework is open source and freely available on GitHub.

4.2 ASP.Net

Client-server development allowed for the minimization of back-end resources, network resources, and the front-end PC by sending only the necessary data between back end and front end. Intelligent client-server development allowed for building applications that were responsive to the user and made efficient use of network and backend resources. As the web development methodology took off in the late 1990s, we unfortunately returned to the terminal-style development. In this methodology, any major operation between the client and server requires that all data be sent in what is called a round trip. With a round trip, all data from the form is sent from the client to the web server. The web server processes data and then sends it back to the client. The result of a round trip is that a lot of data is sent back and forth between the client and server. Given the circumstances, these operations may result in more data transfer and CPU utilization than a web application and server can really tolerate.

ASP.NET Development
ASP.NET is a set of web development technologies produced by Microsoft that is used to build dynamic web sites, web applications, and XML-based web applications. ASP.NET is a part of the .NET framework and allows for developers to build applications in multiple languages, such as Visual Basic .NET, JScript .NET, and C#.

1. Design Methodology

ASP.NET attempts to make the web development methodology like the GUI development methodology by allowing developers to build pages made up of controls similar to a GUI. Server controls in ASP.NET function similarly to GUI controls in other environments. Buttons, text boxes, labels, and datagrids have properties that can be modified and expose events that may be processed. The ASP.NET server controls know how to display their content in an HTML page just like GUI-based user

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controls know how to display themselves in their GUI environment. An added benefit of ASP.NET is that the properties and methods of the web server controls are similar, and in some cases the same as the comparable controls in the Windows GUI/Windows Forms environment.

In this project ASP.net is used as a front end for building a client-server side website having search engine.

4.3 MySQL

MySQL is a RDBMS system that supports client-server architecture. The client (application programs) can either run on the same device of the server or they can be on separate devices. It supports standard database language which is Structured Query Language which is quick to follow and understand. Through the configuration setting of SQL-mode makes it compatible with other databases which use the same language like IBM's DB/2 or Oracle. It is considered to be a very fast database program and can use the stored procedures for faster insertion or deletion of records. MySQL is platform-independent as it can be executed under a number of OSs. Some of them are Apple Macintosh OS X, Linux, and Microsoft Windows. For client programming languages like C, C++, Java, Perl, PHP, Python are employed. The database provides security mechanisms by using solid data security layers that protect sensitive data from intruders. Each layer has a certain rights associated with it and can be set to allow some or all privileges to individuals by encrypted passwords. In this project MySQL is used as a repository for restaurants and hotels database, training dataset and as well as for storing users and admins session details.

About SQL Server

Microsoft SQL Server 2005 is a comprehensive, integrated data management and analysis software that enables organizations to reliably manage mission-critical information and confidently run today's increasingly complex business applications. SQL Server 2005 allows companies to gain greater insight from their business information and achieve faster results for a competitive advantage.

Key Capabilities:

• High Availability: Ensure business continuity with the highest levels of system availability through technologies that protect your data against costly human errors and minimize disaster recovery downtime.

• Performance and Scalability: Deliver an infrastructure that can grow with your business and has a proven record in handling today's large amounts of data and most critical enterprise workloads.

• Security: Provide a secure environment to address privacy and compliance requirements with built-in features that protect your data against unauthorized access.

• Manageability: Manage your infrastructure with automated diagnostics, tuning, and configuration toreduce operational costs while reducing maintenance and easily managing very large amounts of data.

• Developer Productivity: Build and deploy critical business-ready applications more quickly by improving developer productivity and reducing project life cycle times.

• Business Intelligence: Gain deeper insight into your business with integrated, comprehensive analysis and reporting for enhanced decision making.

4.4 Visual Studio

The Microsoft Visual Studio development system is a suite of development tools designed to aid software developers—whether they are novices or seasoned professionals—face complex challenges and create innovative solutions. Every day, software developers break through tough problems to create software that makes a difference in the lives of others. Visual Studio's role is to improve the process of development to make the work of achieving those breakthroughs easier and more satisfying. How Visual Studio improves the process of development:

Productive

Visual Studio-branded tools continually deliver better ways for software developers to do more with less energy wasted on repetition and drudgery. From efficient code editors, IntelliSense, Wizards, and multiple coding languages in one integrated development environment (IDE) to high-end application life-cycle management (ALM) products in Microsoft® Visual Studio® Team System. New versions of Visual Studio keep bringing innovative tools to help developers focus on solving problems, not waste time on minutiae. Integrated with Visual Studio, software developers benefit from an integrated product experience that spans tools, servers, and services. Visual Studio products work well together—not just with one another, but also with other Microsoft software, such as Microsoft server products and the Microsoft Office system.

Comprehensive

Visual Studio offers a choice of tools for all phases of software development—development, testing, deployment, integration, and management—and for every kind of developer—from the novice to the skilled professional. Visual Studio is also engineered to support development across all types of devices—PCs, servers, the Web, and mobile devices.

Reliable

Visual Studio is engineered and tested to be consistently dependable, secure, interoperable, and compatible. Visual Studio offers an unmatched combination of security features, scalability, and interoperability. Although Visual Studio always incorporates forward-thinking features, it is designed to ensure backward-compatibility wherever possible. Visual Studio and the Microsoft Application Platform the Microsoft Application Platform is a portfolio

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of technology capabilities, core products, and best practice guidance focused on helping IT and development departments partner with the business to maximize opportunity. As one of the core products of the Microsoft Application Platform, Visual Studio can help you drive the right business efficiencies, customer connections, and value-added services by providing a single, fully integrated development environment for all types of development, including Microsoft Windows, Microsoft Office, Web, and mobile applications. Use Visual Studio development solutions to give your development team powerful ways to:

1. Increase productivity and quality through integrated and familiar tools.
2. Deploy, secure, and support your critical Web applications and infrastructure.
3. Reduce costs through better visibility of your development process.
4. 4. Provide better predictability and planning through integrated process and methodology support.

4.5 Approximation Algorithm

In this section, we propose approximation algorithms to improve the efficiency of SR Algorithm. Our methods are independent of the underlying ranking algorithm. Query-specific Attribute Values Only Approximation (QAO-Approx): QAO-Approx corrupts only the attribute values that match at least one query term. This approximation algorithm leverages the following observations:

Observation1: The noise in the attribute values that contain query terms dominates the corruption effect.

Observation 2: The number of attribute values that contain at least one query term is much smaller than the numbers of all attribute values in each entity.

Observation 3: Given that only the Top-K result entities are corrupted, the global DB statistics do not change much.

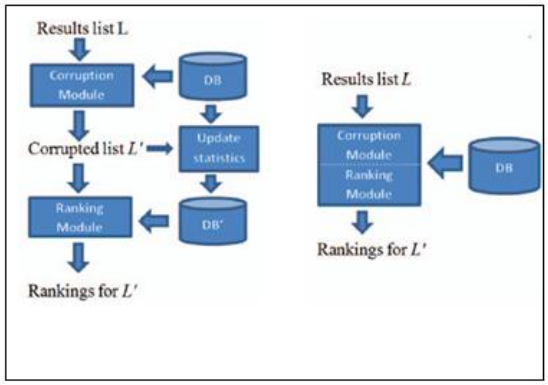

Fig 3: Approximation algorithm.

ACKNOWLEDGMENT

It gives us great pleasure in presenting this project report titled "Ranking and Mapping of Hotels & Restaurants Using Approximation Algorithms" and we wish to express our immense gratitude to the people who provided invaluable knowledge and support in the completion of this project. Their guidance and motivation has helped in making this project a great success. We express our gratitude to our project guide **Prof. Sumita Chandak**, who provided us with all the guidance and encouragement throughout the project development. We would also like to express our sincere gratitude to the respective Project coordinators. We are eager and glad to express our gratitude to the Head of the Information Technology Dept. **Prof. Neelima Pathak**, for her approval of this project. We are also thankful to her for providing us the needed assistance, detailed suggestions and also encouragement to do the project. We would like to deeply express our sincere gratitude to our respected principal **Prof. Dr. Shrikant Kallurkar** and the management of Atharva College of Engineering for providing such an ideal atmosphere to build up this project with well-equipped library with all the utmost necessary reference materials and up to date IT Laboratories. We are extremely thankful to all staff and the management of the college for providing us all the facilities and resources required.

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