



A Noble Technique for Retrieval of Learning Material Based on Students Knowledge Level

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Abstract—*Information retrieval means retrieval of the data in reply to query submitted by an end user. Every student's would like to have quick and accurate response for his/her query. By accurate response we mean that the data retrieved should match the needs of the student. For accurate retrieval of data, the data should be stored in an organized manner in the repository. Though manual efforts may be desirable for good accuracy while storing data, they may be very time consuming. Many efforts have been made to make these tasks automated. In our research we are trying to reduce human efforts in managing and retrieval of learning material based of student's knowledge level.*

a huge digital library containing lots of information. We found that it contains good quality learning material. Many search engines like google, yahoo, bing etc. are available for retrieving web pages from the World wide web (www).

Keywords:— *NLP, Preprocessing, ontology, data warehouse, data dictionary etc.*

1. INTRODUCTION:

Google's search engine normally accepts queries as a simple text and breaks up the user's text into a sequence of search terms which will usually be words that are to occur in the results [4]. Google's advanced web from gives several additional fields which may be used to quality searches by such criteria as data of first retrieval. All advanced queries transform to regular queries usually with additional qualified.

Google is designed to provide higher quality search so as the web continues to grow rapidly, information can be found easily. While evaluation of a search engine is difficult, we found that Google returns higher quality search with the following categories. We can use google search engine for retrieving learning material with the above categories [9].

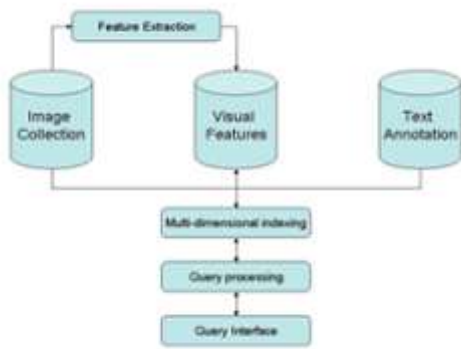


Figure 1: Architecture of an Image Retrieval System

We have used google search engine for retrieving the learning material. We filter the retrieved web pages and divide them into three categories.

- Simple
- Less Difficult
- Difficult

2. RELATED WORK

Google is tuned in such a way that it return pages with less difficulty

The benefits for Google search engine Intermediate User Search for students:-

Save time:- Get relevant search results while you type so you spend less time searching and can go right to the web content you want.

Type Less:- Dynamically generated results let you stop tapping soon as you see what you need.

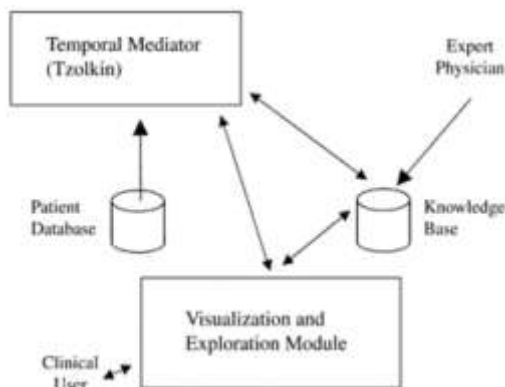


Figure 2: Visualization and exploration of database

Google Instant Results:-

Google for a popular search that begins with those letter. If you don't see the results you want, just keep typing and the results will dynamically update. Connect to the information you need faster, even before you finish typing you search [26]. Once you know the basics of Google search, you might want to try Advanced Search, which offers numerous options for making your searches more precise and getting more useful results.

You can do a lot more with Google search than just typing in search terms. With Advanced Search, you can search only for pages that...

- contain ALL the search terms you type in
- contain the exact phrase you type in
- contain at least one of the words you type in do NOT contain any of the words you type in is written in a certain language is created in a certain file format was updated within a certain period of time contain numbers within a certain range within a certain domain, or website don't contain "adult" material

Advanced search operators:-.

You can also improve your searches by adding "operators" to your search terms in the Google search box, or selecting them from the Advanced Search[8].

Types of advanced search operators include:

- Synonym search
- OR search
- Domain search
- Numrange search

1. Synonym Search

If you want to search not only for your search term but also for its synonyms, place the

tilde sign (~) immediately in front of your search term.

2. "OR" search

To find pages that include either of two search terms, add an uppercase OR between the terms.

- Top of Form
- Bottom of Form

3. Domain search

You can use Google to search only within one specific website by entering the search terms you're looking for, followed by the word "site" and a colon followed by the domain name.

4. Numrange search

Feel like a number? Normangee searches for results containing numbers in a given range. Just add two numbers, separated by two periods, with no spaces, into the search box along with your search terms.

Other advanced search features

- Language: Specify in which language you'd like your results.
- Occurrences: Specify where your search terms occur on the page - anywhere on the page, in the title, or in the URL.
- Domains: Search only a specific website, or exclude that site from your search.
- Safe Search: Eliminates adult sites from search results.

The Google search engine found at www.google.com offers many different features including language and document translation, web, image, newsgroups, catalog and news searches and more.

The process entering a search query to displaying the results is basically the same process among all search engines. The details might be different and are the key competitive factors and therefore well guarded [10].

Identify three steps that are performed by a search engine.

1. Match the search query – Analyze and match search term with pages.
2. Rank the matches: Ranked the matching pages by best result.
3. Displaying the search results: The results are returned as a list to the student.

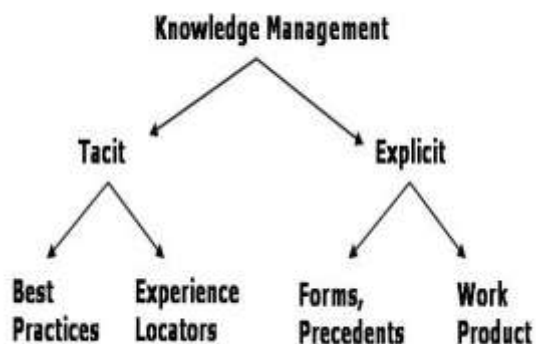


Figure 3 : Search engine workflow

Google search engine has two important features that help it produce high precision results.

- It makes use of the link structure of the web to calculate & quality ranking for each web page.
- Google utilizes link to improve search results.
- Conclusion and Future Work:

Search research on the web has a short and concise history. World wide web (WWW) was one of the first web search engines there has been a fair amount of work on specific features of search engines[12].

3. PROPOSED TECHNIQUE:

Basic Search:-

Basic search is simple Google will search the web for the content that's relevant your search. Student's can choose form, depending how they like to search and the type of information they need. Basic Search goes beyond standard keyword searching, with the use of lexicons that are able to both verify spelling as well as expand terms on the original search query by using "Include Related Terms". (Basic Search was created with the future in mind. will continue to enhance Basic Search with additional content-specific lexicons to make results more relevant in various student's categories).

Basic Search employs Natural Language Processing (NLP), which was designed to retrieve the most relevant results possible from a simple, complete search query. NLP takes a simple search query without the need for syntax rules, search conventions, or complicated and redundant search strategies, and returns the most appropriate, relevant results available .

What types of search query work in basic search:-

1. Generally speaking three types of query work best when using basic search.
2. Group of terms a concise expression of a concept.
3. Full query a questions or phrase stated in plain English.
4. Basic Search will take the search criteria and filter out words that are deemed to be irrelevant, or "noise" words.

Google is world's most popular and powerful search engine which has the ability to accept predefined commands as inputs and produce unbelievable results. Google search engine extensively to gather confidential or sensitive information which are not visible

through common searches [7]. Basic search strategy can help you get used to each search engine's features and how they expressed in the search query. Following the 10 steps will also ensure good results if your search is multifaceted and you want to get the most relevant results.

10 steps are follows (Basic search algorithm)

1. Identity the important concepts of your search.
2. Choose the keywords that describe these concepts.
3. Determine whether there are synonyms, related terms or other variations of the keywords that should by included.
4. Determine which search features may apply, including truncation, Boolean operators.
5. Choose a search engine
6. Read the search instructions on the search engine's home page look for sections entitled "Help", "Advanced Search", "frequently asked questions".
7. Create search expression, using syntax, which is appropriate for the search engine.
8. Evaluate the results. How many hits were returned? Where the results relevant to your query.
9. Modify your search of needed. Go back to steps 2 and Step 4 and revise your query accordingly.
10. Try the same search in different search engine, Following steps 5 and step 9

4. CONCLUSION:

The goal of searching is to provide quality search results efficiently. Many of the large search engines seemed to have great progress in terms of efficiency. The web pages retrieved by our system are more accurate and relevant as compared to any general purpose search engine. The most important measure of a search engine is the quality of its Search results. Our system has it to produce better results than the search engines for most searches.

We have developed an Information Retrieval Module For Retrieving Learning Materials Based on Online Examination System which provide learning material from world wide web (WWW) according to the knowledge level of student. The system consists of an examination module and a retrieval module. The examination module helps is judging the student's knowledge level and create student model. Our aim to design such a student model which should be able to categorize a student into a specific category. The examination module takes examination and examination result reflects the student's knowledge level. There are three categories:

- (1) Basic
- (2) Intermediate
- (3) Advance.

The retrieval module retrieves the web page which contain the required learning material according to the student's category.

5. FUTRURE WORK

Future work includes to retrieve learning material with more accuracy. Our goal is to design such a student model which should be able to provide the system with all the required information. This information should be effectively used by the system's planning module to provide the student's with personalized education meeting the needs of the individual students. Features in student model guarantee the effectiveness of the

representation of the student as good as possible. There are three attributes identified to represent the possible student features. To facilitate easy implementation of these features Strategy design pattern is already implemented in the constructed system.

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