

Internet Search Tool with Query Builder for Users in Rural Area

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Abstract - By 2020, Internet of things will spread all over the world, touching every aspect of human life with automation. What about rural areas? In most part of the world where using computer is a dream, Internet is far away. What about people who are unable to decide the correctness of the information available on the Internet. Automation will make life luxurious in rural areas at some extent. What if information-poor people want to purchase a book, take admission for their child in good college? For such people, here an Internet search tool is proposed which will act as a mediator between user and Google. This tool will filter results returned by Google by removing unwanted pages, media, images and making use of big data technology to store frequently visited pages. This utility is returning relevant pages to the user. Apart from people in the rural area, the tool is also useful for students who are unable to decide the correctness of the information and are often overloaded by thousands of results returned by Google. Proposed utility also contains Query construction tool which will help a user to construct an appropriate query.

Keywords: *big data, Google, Internet of things, bandwidth, cluster.*

I. INTRODUCTION

In this paper, an Internet search tool is proposed which is especially for users in rural areas where Internet is not affordable to many people. Major problem in rural area is connectivity. Internet connectivity is low in rural area due to

geological structure. Users in rural area always face two main issues: low bandwidth and low connectivity. In this paper, solution to these issues has been proposed.

Proposed architecture of Internet search utility is given in figure 1 below.

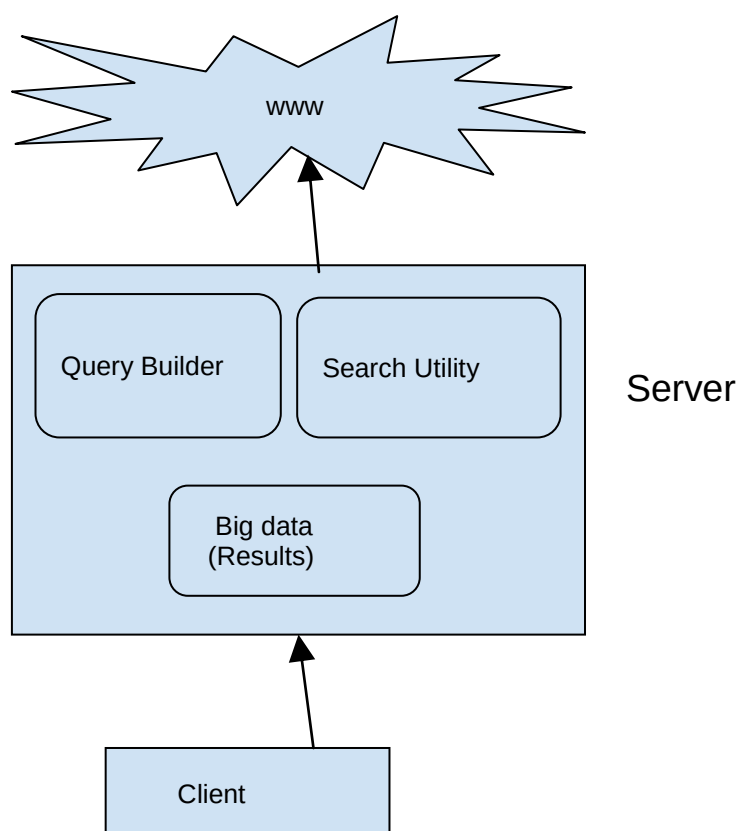


Fig 1. Architecture of Internet Search Tool

The utility consists of following components:

1. Client
2. Server
3. High-Speed Internet Connection

Other components like Query Builder, Search Utility and result pages reside on the server. Server is a high speed machine connected to the Internet.

Client is a user in rural area who can be a student or any other person. I consider this user as an information poor person who is unable to construct an appropriate query and also unable to decide the correctness of the information returned by search engine like Google etc. Query builder component is proposed in this paper which will prompt user with an appropriate and meaningful query. An accurate query is likely to give proper results to the user.

Proposed search utility resides on the server. When user wants to search a query from Internet, she will enter the query in the GUI provided. This query will be given to search tool. If user is searching for the first time, utility will connect to Google search engine. Results returned by Google will be filtered and only accurate results are returned to the user [1]. If it is a repeated search, results are returned from the backup which is stored in the server machine.

If this utility will be used in schools, colleges, big organizations, number of result pages will grow in size. To handle these pages, big data technology will be used [4].

Components of this utility are discussed below:

1. Client:

Client is an ordinary machine, connected to the local area network in an organization. This machine has no Internet connection. User interface implemented using web technology is stored in client machine locally.

2. Server:

Server is a high speed machine with high-speed Internet connection. It has large hard disk in order to store result pages. If data will increase in size, multiple hard disks will be used.

Server contains another 2 modules namely, Query Builder and Search Utility.

3. High-Speed Internet Connection:

High-speed Internet connection is given to only server in the LAN. It saves huge bandwidth.

II. QUERY BUILDER

Query builder is one of the components stored in the server. This component helps user in rural area in construction of an appropriate query. A user in rural area is unable to construct an appropriate query. Failing to which, relevant results are not fetched from the search engine. Here, queries are saved in local memory. Whenever user enters a query, if maximum keywords are matched with the stored query [2], it is prompted to the user. User need not type the query again.

III. INTERNET SEARCH UTILITY

This utility is the heart of the proposed system. This utility reads first 10 pages from the Internet which is stored with relevant file name. Pages which are stored in web server using same name as the content of pages contains relevant information [5]. This utility gives relevant information to the user. Many web pages contain unwanted images and videos. These are removed from the result pages, thus saving the bandwidth which is scarce in the rural area.

This utility is saving result pages which are filtered and again optimized in terms of space by removing unwanted multimedia [1].

Whenever user submits a query, this Internet search utility first checks the result pages saved in local memory. If pages are available in the local memory, they are returned to the user. If pages are not found in local memory, utility connects to the Internet and searches pages from the result returned from Google. Thus, in this system Internet is saved in case of repeated search. Students are one which generally

do repeated search. Proposed system is saving the bandwidth which is a scarce resource in the rural area.

IV. CONCLUSION

Proposed system is useful in rural areas where Internet is not affordable, Internet has low-bandwidth and low-connectivity. This system is useful in an organization like schools, colleges, offices where users are likely to do repeated search.

Not only in the rural area, but this search utility is also useful to a learner, information-poor person.

In future, Artificial Neural Network can be used for query construction. It will predict query which user want to give to the search engine. Using the prediction made by ANN, appropriate suggestions can be given to the user.

V. REFERENCES

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