Qualified Dublin Core and the Scholarly Works Application Profile: A Practical Comparison

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Qualified Dublin Core and the Scholarly Works Application Profile: A Practical Comparison

Dustin Vogel

Introduction-

Dublin Core began as a conversation but with time became one of the most widely used metadata standards in the world. In 1994 key figures Yuri Rubinsky of SoftQuad, Stuart Weibel and Eric Miller, Terry Noreault, of the OCLC (Online Computer Library Center), and Joseph Hardin, of the NCSA (National Center for Supercomputing Applications) met at a conference and had an informal discussion about the difficulties of finding information on the web (Dublin Core Metadata Initiative [DCMI], n.d.c). At the time, there were two main methods of resource description for digital documents, neither of which were designed with the intricacies of the internet in mind (Zeng & Qin, 2008, p. 17). This conversation led to a workshop in 1995 in Dublin, Ohio led by the NCSA and OCLC that was composed of professionals in librarianship, computer science, text encoding, and the museum community. At this meeting the focus of conversation was on the creation of a metadata standard that instead of being adapted for use on the internet would be specifically designed for it. The results of this workshop were named Dublin Core metadata

The Dublin Core Metadata Element Set (DCMES) is composed of the elements “title,” “description,” “type,” “subject,” “source,” “relation,” “coverage,” “creator,” “publisher,” “rights,” “contributor,” “date,” “format,” “identifier,” and “language” (Dublin Core Metadata
These elements represent three types of metadata, content, intellectual property and instantiation. Content is represented by the elements “title,” “description,” “type,” “subject,” “source,” “relation,” and “coverage.” Intellectual property is represented with the elements “creator,” “publisher,” “rights,” and “contributor.” Instantiation is then represented with the elements “date,” “format,” “identifier,” and “language.” All 15 core elements are optional, repeatable, and can be arranged in any order (Zeng & Qing, 2008, p. 18).

This project focuses on a comparison between records created for scholarly articles using Qualified Dublin Core and records for the same articles created using the Scholarly Works Application Profile (SWAP). For the first half of this project, Qualified Dublin Core was chosen instead of Simplified Dublin Core for creating records, as it includes terms that narrow the 15 original elements to more specific information and includes controlled vocabulary as well as formatting guidelines (DCMI Usage Board, 2012). Although Qualified Dublin Core offers far more refinements than the original, application profiles are frequently created by communities with specific information needs that even Qualified Dublin Core cannot fulfill. SWAP is one of these profiles that have been created to fulfill the metadata needs of the academic community. This application profile includes uniquely refined elements as well as specific guidelines for utilizing each of them. This comparison strives to explore whether SWAP does indeed create higher quality records that better fit the needs of academia, or if Qualified Dublin Core is more than enough if not superior.

**Relevant Literature**

The current literature surrounding Dublin Core suggests that is widely known and used all over the world for various reasons. According to Zeng and Qin (2008), “The Dublin
Core has the most mapped element sets among and across domain-specific and community-orientated metadata standards,” possibly explaining why it is so widely used (p. 16). In addition, the same authors note that Dublin Core’s basic description mechanism “… was designed to be simple and powerful, able to be used in all domains, applicable to any type of resource and extensible enough to work for specific solutions” (p. 18). In other words, because Dublin Core was designed to be simple and apply to any situation or resource, it could be adopted by any organization in need of metadata standards for a project. These principles are reflected in the DCMI Abstract Model, which provided a shared data model that enables interoperability at a high level (pg. 22). The underlying principles of simplicity, compatibility, and extensibility were also reflected in the DCMES of 15 core elements and their additional refinements that have been added since 2007 (p. 18).

The “Dublin Core User Guide” also highlights other reasons Dublin Core has been so widely used. For instance, it was specifically designed for digital objects (although it can be used to describe any object). Authors Rühle, Baker, and Johnston (n.d.b) remind us that Dublin Core is “… best described as a style of metadata that has evolved from efforts to put the fifteen elements into the context of a coherent approach to metadata on the World Wide Web generally” (para. 2). Although the element set is one of Dublin Core’s finest achievements, organizing this information within the context of the web was a novel step required for Dublin Core to achieve the wide use it has today.

Dublin Core was revolutionary for its time and still active and widely used today. However, as with any scheme there are downsides to Dublin Core, which I considered before adopting it for my project. First, while its simplicity makes it easy to apply, the lack of
specificity makes it less than ideal for documents that may require more detail (like scholarly article). Also, as DC has a flat structure and loose control of values, it lacks the uniformity of other metadata standards such as MODS (Zeng & Qin, 2008, p. 30). Although these two qualities of DC have largely been interpreted as positive, the lack of detail present in the original core elements required other metadata standards to be created to better serve the needs of specialized sectors. These specialized sectors required additional fields that were not present in the original DCMES. Similarly, while the loose structure of DC was intentionally made flexible to adapt to the imperfect world of the web, the lack of required elements could make it unclear as to which elements should even be included at all. In addition, the names chosen for each element can be confusing, making DC more difficult to apply.

While many of the individual DC elements are intuitively named, others can be ambiguous and difficult to use when creating records. To test this theory, authors Park and Childress (2009) surveyed 303 library workers. The survey focused on seven DC elements: “creator,” “contributor,” “publisher,” “type,” “format,” “source” and “relation.” The results were that 55.3% of the participants had greatest trouble with the “relation” field. “Source,” followed with 42.4% and “contributor” next with 29.6%. “Publisher,” “type,” and “format,” were all found to be difficult by about a quarter of the survey and 21.2% had trouble with the “creator” element (pp. 733-734). The findings of this survey suggest that the very name of several of the elements creates confusion about how they are applied (without additional information). Although the ambiguity in certain DC elements is a downside, when creating the records for this project I always had relevant, supplementary information on hand to aid me. Overall, while Dublin Core can be interpreted as too flexible and loose in structure with
ambiguous elements, its weaknesses are largely surpassed by its strengths, making it a great choice for this metadata project.

Before I chose Dublin Core for this project, I reviewed the documentation surrounding it. “The Dublin Core User Guide” focuses on the origins of Dublin Core and the model behind it, as well as other details about DC. One particular section of interest outlines the different levels of interoperability available in DC. Level 1 interoperability requires shared term definitions while Level 2 has formal semantic interoperability using RDF. Levels 3 and 4 interoperability focus on shared record constraints (Rühle, Baker, Johnston, n.d.b). As interoperability is frequently a factor when discussing the strengths or weaknesses of a metadata standard, the fact that Dublin Core has clearly defined levels of interoperability that utilize MARC’s successor, RDF, makes DC a strong choice. Although the “Dublin Core User Guide” provides more history than anything, understanding the levels of interoperability offered by Dublin Core was helpful when determining if I should use it for my project. However, one particular guide created by the same authors contained more practical information that was most useful for creating Qualified Dublin Core records.

Most ambiguities surrounding how DC elements are defined or used are explained in the “Creating Metadata” portion of the user guide. Authors Rühle, Baker and Johnston (n.d.a) explain the details of which elements contain what information and more. While many of the DC elements are well represented by their name, others appear more ambiguous. To clarify the more ambiguous elements and to verify that the other elements were being used properly, I used the “Creating Metadata” guide. Since I did not understand what information went in the “type” element, I found it in the guide and discovered that it should be used for “… a description of the
nature or genre of the content of a resource (e.g. a stylistic category, a function or an aggregation level)” (Type section, para.1). Initially I believed “type” was used to describe the physical or digital manifestation of the item, but as the guide clarifies, this belongs in the “format” element.

I was also confused about the identifier element and discovered from the guide that this element should include a formal, unambiguous reference to the object. This is usually done in the format of a URI, URL, DOI, or ISBN if the object has one (n.d.a). I initially believed this field would contain a call number, but as I discovered with the guide, call numbers do not belong in this field, especially considering many of the resources catalogued using DC are digital and do not have call numbers. Although there were other elements I did not understand the function of, the process for clarifying them was much the same; find the element in the guide and read the instructions on how to use it properly. Overall, the “Creating Metadata” portion of the “Dublin Core User Guide” was instrumental in creating the Qualified Dublin Core records for this project, as I utilized it to clarify the use of many elements.

While much of the general information I discovered about Dublin Core and how to use it was helpful for my project, I also needed information specific about cataloguing scholarly journal articles with DC. Fortunately, an application profile had already been created for scholarly works, entitled Scholarly Works Application Profile (SWAP). This application profile and the work associated with it were funded and created by the UK’s Joint Information Systems Committee (JISC) in 2006. The JISC was interested in creating SWAP because “… metadata has a key role to play in the discovery, exchange, and reuse of scholarly information in the widest sense.” In addition, the JISC aimed to “… tackle real issues inherent in using metadata that is constrained by its simplicity and, as such, introduces some necessary complexity …”
As one of the biggest criticisms of Dublin Core is that the elements are too general for more specific applications, discovering an application profile that introduces terms used for scholarly resources, while still working within the DC framework, was incredibly relevant to my project.

In order to better understand SWAP I reviewed the documentation surrounding it. The JISC maintains the profile and it is hosted on the UKOLN website. On this website there is a description of the SWAP and why it was created. The website describes which elements can be included in the application profile, such as “entity type,” “title,” “funder,” “grant number,” and more. (JISC, n.d.b). While some of the elements are directly borrowed from DC, others are unique to the application profile as they pertain specifically to scholarly work. To outline this, the SWAP website contains a mapping to Simple DC. Elements such as “type,” “title,” and “subject” have direct mappings to the same elements, while elements like “has adaptation” are mapped to the “relation” element. Elements such as “funder” and “grant number” are ignored as they have no mapping to Simple DC and are unique to SWAP (JISC, n.d.a).

In addition, I discovered that for a single ScholarlyWork description the elements “title” and “entity type” are required while all other elements are optional (JISC, n.d.b). One of the greatest strengths of Dublin Core is its flexibility with elements. SWAP maintains much of this flexibility while requiring a few basic elements to catalogue an object and identify it. The only downside to SWAP is that it did not meet a formal review conducted by the DCMI Usage Board, based on confusion between the elements “entity type” and “entity,” and how they are defined (DCMI, n.d.a). While this is true and SWAP does not meet formal review criteria, it was quite an asset for my project and the basis of all the scholarly records created.
Overall, the resources outlined in this literature review aided in the process of my metadata project, which consisted of creating two set of records for the same scholarly articles; one with Qualified Dublin Core and the other utilizing the Scholarly Works Application Profile. Many of the resources described here gave me context and illustrated how to create Dublin Core records in general, while others were specific to records about scholarly works. Without these resources it would have been difficult to create the records I needed for my project.

**Goals**

- Create 30 Dublin Core records.
- Utilize both Qualified Dublin Core and SWAP to create these records, 15 of each.
- Compare and contrast these records to explore if SWAP does indeed aid in the creation of better quality records more suited for academia.

**Steps and Procedures**

To find the 15 scholarly articles for this project, I used Academic Search Premier. I used the advanced search to craft the query internet AND "search engine" OR "search engines" OR searching and limited results to scholarly journals in English with references available. This both ensured that my results would come from scholarly journals, making them academic, and that they would be research articles, both necessary qualities for the Scholarly Works Application Profile to be applicable. While there were a few a thousand results I selected 15 from the first two pages. The selection wasn’t entirely random as I tended to focus on articles that tested search engine features or how certain populations used search engines, over other types of articles.
Once I selected 15 appropriate articles, I created the Qualified Dublin Records first, using the Advanced Dublin Core Generator from dublincoregenerator.com. My process for this portion of the project was to look at the record for the article in Academic Search Premier, and then use that information to create the QDC records. For the subject element I copied all subjects from the ASP record, as long as they were a valid Library of Congress Subject Heading. Just as I used LCSH as subject standard, I used other standards when applicable, like W3C-DTF for the date field. If I didn’t understand a particular element I consulted the “Dublin Core User Guide.” If a particular element was missing from the ASP record, I did not examine the actual scholarly article for it, as the user guide made it clear almost all elements were optional. However, most of the records created contain the title, creator, subject, abstract, publisher, date, format, identifier, language, is part of, coverage, rights, and rights holder elements.

To create the SWAP records I first built a record template, as I was going to create each record manually. This template included all the possible elements for the Works portion of SWAP and included entity type, title, subject, abstract, identifier, creator, funder, grant number, supervisor, affiliated institution, has adaptation, and is expressed as. For the SWAP records, I was able to use much of the information I had utilized when creating the previous records. However, I consulted the SWAP user guide, which had much more specific instructions. Instead of simply copying and pasting information, I also explored the scholarly works themselves, to find more detailed information or information that hadn’t been necessary when creating the previous records (like grant number or affiliated institution). After exploring the works, I usually eliminated many subjects that weren’t specific, and added ones that were, as per the instructions in user guide. Overall, while the records were based on the same scholarly articles, the process to create each set was quite different.
Product-

Qualified Dublin Core Records

#1

<?xml version="1.0" encoding="UTF-8"?>

<metadata
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:dc="http://purl.org/dc/elements/1.1/"
xmlns:dcterms="http://purl.org/dc/terms/">


<dc:creator>Yin, Chengjiu</dc:creator>

<dc:creator>Sung, Han-Yu</dc:creator>

<dc:creator>Hwang, Gwo-Jen</dc:creator>

<dc:creator>Hirokawa, Sachio</dc:creator>

<dc:creator>Chu, Hui-Chun</dc:creator>

<dc:creator>Flanagan, Brendan</dc:creator>

<dc:creator>Tabata, Yoshiyuki</dc:creator>

<dc:subject xsi:type="dcterms:LCSH">Web search engines</dc:subject>

<dc:subject xsi:type="dcterms:LCSH">Research</dc:subject>

<dc:subject xsi:type="dcterms:LCSH">Learning</dc:subject>

<dc:subject xsi:type="dcterms:LCSH">Heuristic</dc:subject>

<dc:subject xsi:type="dcterms:LCSH">Internet</dc:subject>

<dc:subject xsi:type="dcterms:LCSH">Information resources management</dc:subject>
<dcterms:abstract>With the popularity of the Internet, online searching is becoming an important part of learning. In this paper, based on the "Learning by Searching" theory, a learning environment is developed, which includes a search engine to assist students in recognizing the progression of trends and keyword transitions for specific domains. To efficiently support research trend surveys, an automatic data accumulation and classification approach is proposed to construct the database excerpts instead of manual keyword registration or any other heuristic preprocesses. With an associative search module, the search engine dynamically searches for relevant words that are frequently used in the targeted academic field, and provides learners with effective visualizations to understand the trend transitions. An experiment has been conducted on a college information management course to show the effectiveness of the proposed approach. The experiment results show that the students who learned with the new approach had significantly better learning performance in terms of recognizing the trend transitions of the targeted issues than those who learned with conventional search engines. </dcterms:abstract>

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Background Atlases on CD-ROM first substituted the use of paediatric dermatology atlases printed on paper. This permitted a faster search and a practical comparison of differential diagnoses. The third step in the evolution of clinical atlases was the onset of the online atlas. Many doctors now use the Internet image search engines to obtain clinical images directly. 

Objectives The aim of this study was to test the reliability of the image search engines compared to the online atlases. 

Methods We tested seven Internet image search engines with three paediatric dermatology diseases. Results In general, the service offered by the search engines is good, and continues to be free of charge. The coincidence between what we searched for and what we found was generally excellent, and contained no advertisements. Most Internet search engines provided similar results but some were more user friendly than others. It is not necessary to repeat the same research with Picsearch, Lycos and MSN, as the response would be the same; there is a possibility that they might share software. Conclusions Image search engines are a useful, free and precise method to obtain paediatric dermatology images for teaching purposes. There is still the matter of copyright to be resolved. What are the legal uses of these
‘free’ images? How do we define ‘teaching purposes’? New watermark methods and encrypted electronic signatures might solve these problems and answer these questions.

<dc:abstract>New watermark methods and encrypted electronic signatures might solve these problems and answer these questions.</dc:abstract>

<dc:creator>Salako, O. A</dc:creator>
<dc:creator>Tiamiyu, M. A.</dc:creator>
The study was motivated by the methodological requirements of a related study on the coverage of Africa-specific information by Internet search engines, and the need to promote understanding of the search engine experiences, preferences and training needs of postgraduate research students in an African university setting. The data were collected through a structured 25-item questionnaire administered to 327 postgraduate students in a population of 6525. Data were collected only from students who had been using search engines. They were resident in the hostels, and were available during the study. The questionnaire response rate was 75.9%. Google and Yahoo! were by far the most popular engines with the students in that order. Most of the students frequently used the two search engines together for browsing; and about 75% of them learned how to use search engines through friends or by trial and error. Students relied on search engines mostly for their academic work, and for job search. Although almost 90% of the students were at least ‘somewhat confident’ with their most preferred engines, only a third of them were aware of the advanced and Boolean search options provided by the engines, apart from experiencing problems with how to select words for searches. The findings of the study confirm the continuing need for educational planners and administrators in African universities to integrate adequate information (technology) literacy content into the curricula for postgraduate and research students in the universities.
<dc:title>Libraries and Google Co-op</dc:title>
<dc:creator>Bassett, Dawn</dc:creator>
<dc:creator>Kumaran, Maha</dc:creator>
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<dc:subject xsi:type="dcterms:LCSH">Search engines</dc:subject>
<dc:subject xsi:type="dcterms:LCSH">Digital libraries</dc:subject>
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<dc:subject xsi:type="dcterms:LCSH">Electronic information resources</dc:subject>
<dc:subject xsi:type="dcterms:LCSH">Online information services</dc:subject>
Google has recently introduced Google Co-op, a platform which is comprised of three different tools: custom search engine, subscribed links, and topics. The custom search engine and subscribed links features of Google Co-op are being used successfully by a variety of different businesses and libraries to help harness the power and size of the Web. Other organizations are contributing to specific search areas designed by Google using the topics feature. By examining the ways that such organizations are using Google Co-op and by demonstrating how to use custom search engines and topics, the article draws some conclusions about the potential usefulness of Google Co-op's features for libraries.
Purpose — This paper reports the findings of a major study examining the overlap among results retrieved by three major web search engines. The goal of the research was to: measure the overlap across three major web search engines on the first results page overlap (i.e. share the same results) and the differences across a wide range of user defined search terms; determine the differences in the first page of search results and their rankings (each web search engine’s view of the most relevant content) across single-source web search engines, including both sponsored and non-sponsored results; and measure the degree to which a meta-search web engine, such as Dogpile.com, provides searchers with the most highly ranked search results from three major single source web search engines. Design/methodology/approach — The authors collected 10,316 random Dogpile.com queries and ran an overlap algorithm using the URL for each result by query. The overlap of first result page search for each query was then summarized across all 10,316 to determine the overall overlap metrics. For a given query, the URL of each result for each engine was retrieved from the database. Findings - The percent of total results unique retrieved by only one of the three major web search engines was 85 percent, retrieved by two web search engines was 12 percent, and retrieved by all three web search engines was 3 percent. This small level of overlap reflects major differences in web search engines retrieval and ranking results. Research limitations/implications — This study provides an important
contribution to the web research literature. The findings point to the value of meta-search engines in web retrieval to overcome the biases of single search engines. Practical implications — The results of this research can inform people and organizations that seek to use the web as part of their information seeking efforts, and the design of web search engines. Originality/value — This research is a large investigation into web search engine overlap using real data from a major web meta-search engine and single web search engines that sheds light on the uniqueness of top results retrieved by web search engines.</dcterms:abstract>

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<dc:temporal>21st century</dc:temporal>

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This study investigates the information seeking behavior of general Korean Web users. The data from transaction logs of selected dates from August 2006 to August 2007 were used to examine characteristics of Web queries and to analyze click logs that consist of a collection of documents that users clicked and viewed for each query. Changes in search topics are explored for NAVER users from 2003/2004 to 2006/2007. Patterns involving spelling errors and queries in foreign languages are also investigated. Search behaviors of Korean Web users are compared to those of the United States and other countries. The results show that entertainment is the top ranked category, followed by shopping, education, games, and computer/Internet. Search topics changed from computer/Internet to entertainment and shopping from 2003/2004 to 2006/2007 in Korea. The ratios of both spelling errors and queries in foreign languages are low. This study reveals differences for search topics among different regions of the world. The results suggest that the analysis of click logs allows for the reduction of unknown or unidentifiable queries by providing actual data on user behaviors and their probable underlying information needs. The implications for system designers and Web content providers are discussed.
The retrieval effectiveness of search engines on navigational queries

Purpose – The purpose of this paper is to test major web search engines on their performance on navigational queries, i.e. searches for homepages.

Design/methodology/approach – In total, 100 user queries are posed to six search engines (Google, Yahoo!, MSN, Ask, Seekport, and Exalead). Users described the desired pages, and the results position of these was recorded. Measured success and mean reciprocal rank are calculated. Findings – The performance of the major search engines Google, Yahoo!, and MSN was found to be the best, with around 90 per cent of queries answered correctly. Ask and Exalead performed worse but received good scores as well. Research limitations/implications – All queries were in German, and the German-language interfaces of the search engines were used. Therefore, the results are only valid for German queries. Practical implications – When designing a search engine to compete with the major search engines, care should be taken on the
performance on navigational queries. Users can be influenced easily in their quality ratings of search engines based on this performance. Originality/value – This study systematically compares the major search engines on navigational queries and compares the findings with studies on the retrieval effectiveness of the engines on informational queries. <dc:abstract>

<dc:creator>Bar-Ilan, Judit</dc:creator>
Purpose — The objective of this paper is to characterize the changes in the rankings of the top ten results of major search engines over time and to compare the rankings between these engines. Design/methodology/approach — The papers compare rankings of the top-ten results of the search engines Google and AlltheWeb on ten identical queries over a period of three weeks. Only the top-ten results were considered, since users do not normally inspect more than the first results page returned by a search engine. The experiment was repeated twice, in October 2003 and in January 2004, in order to assess changes to the top-ten results of some of the queries during the three months interval. In order to assess the changes in the rankings, three measures were computed for each data collection point and each search engine. Findings — The findings in this paper show that the rankings of AlltheWeb were highly stable over each period, while the rankings of Google underwent constant yet minor changes, with occasional major ones. Changes over time can be explained by the dynamic nature of the web or by fluctuations in the search engines' indexes. The top-ten results of the two search engines had surprisingly low overlap. With such small overlap, the task of comparing the rankings of the two engines becomes extremely challenging. Originality/value — The paper shows that because of the abundance of information on the web, ranking search results is of extreme importance. The paper compares several measures for computing the similarity between rankings of search tools, and shows that none of the measures is fully satisfactory as a standalone measure. It also demonstrates the apparent differences in the ranking algorithms of two widely used search engines.
Using the Turning Research Into Practice (TRIP) database: how do clinicians really search?

Meats, Emma; Brassey, Jon; Heneghan, Carl; Glasziou, Paul

Internet searching; Online databases; Search engines
Objectives: Clinicians and patients are increasingly accessing information through Internet searches. This study aimed to examine clinicians' current search behavior when using the Turning Research Into Practice (TRIP) database to examine search engine use and the ways it might be improved. Methods: A Web log analysis was undertaken of the TRIP database--a meta-search engine covering 150 health resources including MEDLINE, The Cochrane Library, and a variety of guidelines. The collectors for terms used in searches were studied, and observations were made of 9 users' search behavior when working with the TRIP database. Results: Of 620,735 searches, most used a single term, and 12% (n = 75,947) used a Boolean operator: 11% (n = 69,006) used "AND" and 0.8% (n = 4,941) used "OR." Of the elements of a well-structured clinical question (population, intervention, comparator, and outcome), the population was most commonly used, while fewer searches included the intervention. Comparator and outcome were rarely used. Participants in the observational study were interested in learning how to formulate better searches. Conclusions: Web log analysis showed most searches used a single term and no Boolean operators. Observational study revealed users were interested in conducting efficient searches but did not always know how. Therefore, either better training or better search interfaces are required to assist users and enable more effective searching.
Purpose - The purpose of the study was to compare an internet search engine, Google, with appropriate library databases and systems, in order to assess the relative value, strengths and weaknesses of the two sorts of system. Design/methodology/approach - A case study approach was used, with detailed analysis and failure checking of results. The performance of the two systems was assessed in terms of coverage, unique records, precision, and quality and accessibility of results. A novel form of relevance assessment, based on the work of Saracevic and others was devised. Findings - Google is superior for coverage and accessibility. Library systems are superior for quality of results. Precision is similar for both systems. Good coverage
requires use of both, as both have many unique items. Improving the skills of the searcher is likely to give better results from the library systems, but not from Google. Research limitations/implications - Only four case studies were included. These were limited to the kind of queries likely to be searched by university students. Library resources were limited to those in two UK academic libraries. Only the basic Google web search functionality was used, and only the top ten records examined. Practical implications - The results offer guidance for those providing support and training for use of these retrieval systems, and also provide evidence for debates on the "Google phenomenon". Originality/value - This is one of the few studies which provide evidence on the relative performance of internet search engines and library databases, and the only one to conduct such in-depth case studies. The method for the assessment of relevance is novel.
Analysing Google rankings through search engine optimization data

Evans, Michael P.

Web search engines
Search engines
Database searching
Electronic reference sources
World Wide Web
Internet industry
Computer industry

Purpose - The purpose of this paper is to identify the most popular techniques used to rank a web page highly in Google. Design/methodology/approach - The paper presents the results of a study into 50 highly optimized web pages that were created as part of a Search Engine Optimization competition. The study focuses on the most popular techniques that were used to rank highest in this competition, and includes an analysis on the use of PageRank, number of pages, number of in-links, domain age and the use of third party sites such as directories and social bookmarking sites. A separate study was made into 50 non-optimized web pages for comparison. Findings - The paper provides insight into the techniques that successful Search Engine Optimizers use to ensure a page ranks highly in Google. Recognizes the importance of PageRank and links as well as directories and social bookmarking sites. Research limitations/implications - Only the top 50 web sites for a specific query were analyzed. Analysing more web sites and comparing with similar studies in different competition would provide more concrete results. Practical implications - The paper offers a revealing insight into the techniques used by industry experts to rank highly in Google, and the success or otherwise of those techniques. Originality/value - This paper fulfills an identified need for web sites and e-commerce sites keen to attract a wider web audience.

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Text
Text/html
DOI: 101108/10662240710730470
Exploring Google to Enhance Reference Services

Jia, Peijun

Electronic information resource searching
Search engines
Reference services (Libraries)
Internet searching
Database searching

Google is currently recognized as the world's most powerful search engine. Google is so powerful and intuitive that one does not need to possess many skills to use it. However, Google is more than just simple search. For those who have special search skills and know Google's superior search features, it becomes an extraordinary tool. To understand Google and use it to its full potential, one needs to fine-tune search skills and explore its features. For those familiar with Google's appropriate attributes, zeroing into the exact target may be
accomplished in one hit—such is the efficiency of this highly underutilized engine. 

<dc:publisher>Taylor & Francis Ltd</dc:publisher>
<dc:date xsi:type="dcterms:W3CDTF">2011-01</dc:date>
<dc:type xsi:type="dcterms:DCMIType">Text</dc:type>
<dc:format xsi:type="dcterms:IMT">application/pdf</dc:format>
<dc:language xsi:type="dcterms:ISO639-3">eng</dc:language>
<dc:rights>All rights reserved. </dc:rights>
<dc:rightsholder>Taylor & Francis Ltd</dc:rightsholder>

#13

<?xml version="1.0" encoding="UTF-8"?>

<meta xml:lang="en">

<dc:title>Classifying the user intent of web queries using k-means clustering</dc:title>
<dc:creator>Kathuria, Ashish</dc:creator>
<dc:creator>Jansen, Bernard J.</dc:creator>
<dc:creator>Hafernik, Carolyn</dc:creator>
<dc:creator>Spink, Amanda</dc:creator>
Purpose - Web search engines are frequently used by people to locate information on the Internet. However, not all queries have an informational goal. Instead of information, some people may be looking for specific web sites or may wish to conduct transactions with web services. This paper aims to focus on automatically classifying the different user intents behind web queries. Design/methodology/approach - For the research reported in this paper, 130,000 web search engine queries are categorized as informational, navigational, or transactional using a k-means clustering approach based on a variety of query traits. Findings - The research findings show that more than 75 percent of web queries (clustered into eight classifications) are informational in nature, with about 12 percent each for navigational and transactional. Results also show that web queries fall into eight clusters, six primarily informational, and one each of primarily transactional and navigational. Research limitations/implications - This study provides an important contribution to web search literature because it provides information about the goals of searchers and a method for automatically classifying the intents of the user queries. Automatic classification of user intent can lead to improved web search engines by tailoring results to specific user needs. Practical implications - The paper discusses how web search engines can use automatically classified user queries to provide more targeted and relevant results in web searching by implementing a real-time classification method as presented in this research. Originality/value - This research investigates a new application of a method for automatically classifying the intent of user queries. There has been limited research to date on automatically classifying the user intent of web queries, even though the pay-off for web search engines can be quite beneficial.

Emerald Group Publishing Limited

2010

Text

text/html
Impact of commercial search engines and international databases on engineering teaching and research

Chanson, Hubert

Electronic information resource literacy

Search engines

Electronic information resource searching

Information storage and retrieval systems

Engineering--Study and teaching

Library orientation for engineering students

Digital libraries

Broadband communication systems
For the last three decades, the engineering higher education and professional environments have been completely transformed by the 'electronic/digital information revolution' that has included the introduction of personal computer, the development of email and world wide web, and broadband Internet connections at home. Herein the writer compares the performances of several digital tools with traditional library resources. While new specialised search engines and open access digital repositories may fill a gap between conventional search engines and traditional references, these should be not be confused with real libraries and international scientific databases that encompass textbooks and peer-reviewed scholarly works. An absence of listing in some Internet search listings, databases and repositories is not an indication of standing. Researchers, engineers and academics should remember these key differences in assessing the quality of bibliographic 'research' based solely upon Internet searches.
<dc:title>Comparing test searches in PubMed and Google Scholar</dc:title>
/dc:creator>Shultz, Mary</dc:creator>
<dc:subject xsi:type="dcterms:LCSH">Information retrieval</dc:subject>
<dc:subject xsi:type="dcterms:LCSH">Web search engines</dc:subject>
<dc:subject xsi:type="dcterms:LCSH">Computer software</dc:subject>
<dc:subject xsi:type="dcterms:LCSH">Internet searching</dc:subject>
<dc:abstract>This article discusses the enthusiasm and criticism that surrounds the Internet search engine tool Google Scholar. The computer program was designed to provide access to peer-reviewed research papers, theses, books, abstracts, and articles from academic publisher Web sites. The result of searches on the program were compared to the results found by the program PubMed.</dc:abstract>
<dc:publisher>Medical Library Association</dc:publisher>
<dc:date xsi:type="dcterms:W3CDTF">2007-10</dc:date>
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<dc:language xsi:type="dcterms:ISO639-3">eng</dc:language>
<dc:isPartOf>Journal of the Medical Library Association Vol. 95 Issue 4</dc:isPartOf>
<dc:temporal>21st century</dc:temporal>
<dc:rights>All rights reserved.</dc:rights>
<dc:rightsholder>Medical Library Association</dc:rightsholder>
SWAP Records

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@prefix dcterms: <http://purl.org/dc/terms/>
@prefix eprint: <http://purl.org/eprint/terms/>

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    )  
  )

Statement (  
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    Value URI ( <http://purl.org/eprint/entityType/ScholarlyWork> )
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Statement (  
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    Literal Value String ( "Learning by Searching : A Learning Environment that Provides Searching and Analysis Facilities for Supporting Trend Analysis Activities" )
  )

Statement (  
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  )
Value String (" Web search engines ")

)

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Vocabulary Encoding Scheme URI ( dcterms:LCSH )  
Value String (“World Wide Web--Research”)
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Value String (“Information resources management”)
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Statement (  
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Value String ("With the popularity of the Internet, online searching is becoming an important part of learning. In this paper, based on the "Learning by Searching" theory, a learning environment is developed, which includes a search engine to assist students in recognizing the progression of trends and keyword transitions for specific domains. To efficiently support research trend surveys, an automatic data accumulation and classification approach is proposed to construct the database excerpts instead of manual keyword registration or any other heuristic preprocesses. With an associative search module, the search engine dynamically searches for relevant words that are frequently used in the targeted academic field, and provides learners with effective visualizations to understand the trend transitions. An experiment has been conducted on a college information management course to show the effectiveness of the proposed approach. The experiment results show that the students who learned with the new approach had significantly better learning performance in terms of recognizing the trend transitions of the targeted issues than those who learned with conventional search engines.”)
)

Statement (  

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  ValueId (nationaltaiwanuniofst)
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Value String ( "Web search engines" )

)

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Value String ( "Digital images" )

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Vocabulary Encoding Scheme URI ( dcterms:LCSH )

Value String ( "Dermatology—Atlases" )

)

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Value String ( "Background Atlases on CD-ROM first substituted the use of paediatric dermatology atlases printed on paper. This permitted a faster search and a practical comparison of differential diagnoses. The third step in the evolution of clinical atlases was the onset of the online atlas. Many doctors now use the Internet image search engines to obtain clinical images directly. Objectives The aim of this study was to test the reliability of the image search engines compared to the online atlases. Methods We tested seven Internet image search engines with three paediatric dermatology diseases. Results In general, the service offered by the search engines is good, and continues to be free of charge. The coincidence between what we searched for and what we found was generally excellent, and contained no advertisements. Most Internet search engines provided similar results but some were more user friendly than others. It is not necessary to repeat the same research with Picsearch, Lycos and MSN, as the response would be the same; there is a possibility that they might share software. Conclusions Image search engines are a useful, free and precise method to obtain paediatric dermatology images for teaching purposes. There is still the matter of copyright to be resolved. What are the legal uses of these ‘free’ images? How do we define ‘teaching purposes’? New watermark methods and encrypted electronic signatures might solve these problems and answer these questions." )

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Valueld ( mcutrone )

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)

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  ValueId ( umbertoihosp )
)

Statement (
  Property URI ( eprint:affiliatedInstitution )
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  ValueId ( barcelonaunidod )
)

Statement ( 
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)

)

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Value String ( "Information retrieval" )  

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Statement (  

Property URI ( dcterm:abstract )  

Value String ( "The study was motivated by the methodological requirements of a related study on the coverage of Africa-specific information by Internet search engines, and the need to promote understanding of the search engine experiences, preferences and training needs of postgraduate research students in an African university setting. The data were collected through a structured 25-item questionnaire administered to 327 postgraduate students in a population of 6525. Data were collected only from students who had been using search engines. They were resident in the hostels, and were available during the study. The questionnaire response rate was 75.9%. Google and Yahoo! were by far the most popular engines with the students in that order. Most of the students frequently used the two search engines together for browsing; and about 75% of them learned how to use search engines through friends or by trial and error. Students relied on search engines mostly for their academic work, and for job search. Although almost 90% of the students were at least ‘somewhat confident’ with their most preferred engines, only a third of them were aware of the advanced and Boolean search options provided by the engines, apart from experiencing problems with how to select words for searches. The findings of the study confirm the continuing need for educational planners and administrators in African universities to integrate adequate information (technology) literacy content into the curricula for postgraduate and research students in the universities." )  

)  

Statement (  

Property URI ( dc:identifier )  


Syntax Encoding Scheme URI ( dcterms:URI )  

)
# Libraries and Google Co-op

Resource URI ( <http://dx.doi.org/10.1300/J111v46n03_12> )

Library and Google Co-op ( "Libraries and Google Co-op" )

Web search engines ( "Web search engines" )
Google has recently introduced Google Co-op, a platform which is comprised of three different tools: custom search engine, subscribed links, and topics. The custom search engine and subscribed links features of Google Co-op are being used successfully by a variety of different businesses and libraries to help harness the power and size of the Web. Other organizations are contributing to specific search areas designed by Google using the topics feature. By examining the ways that such organizations are using Google Co-op and by demonstrating how to use custom search engines and topics, the article draws some conclusions about the potential usefulness of Google Co-op's features for libraries.
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Description (# description of the eprint as a ScholarlyWork

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Property URI ( dc:title )
Literal Value String ( "Overlap among major web search engines" )

) Statement ( )

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Vocabulary Encoding Scheme URI ( dcterms:LCSH )
Value String ( "Web search engines" )

) Statement ( )

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This paper reports the findings of a major study examining the overlap among results retrieved by three major web search engines. The goal of the research was to: measure the overlap across three major web search engines on the first results page overlap (i.e. share the same results) and the differences across a wide range of user defined search terms; determine the differences in the first page of search results and their rankings (each web search engine’s view of the most relevant content) across single-source web search engines, including both sponsored and non-sponsored results; and measure the degree to which a meta-search web engine, such as Dogpile.com, provides searchers with the most highly ranked search results from three major single source web search engines. Design/methodology/approach — The authors collected 10,316 random Dogpile.com queries and ran an overlap algorithm using the URL for each result by query. The overlap of first result page search for each query was then summarized across all 10,316 to determine the overall overlap metrics. For a given query, the URL of each result for each engine was retrieved from the database. Findings - The percent of total results unique retrieved by only one of the three major web search engines was 85 percent, retrieved by two web search engines was 12 percent, and retrieved by all three web search engines was 3 percent. This small level of overlap reflects major differences in web search engines retrieval and ranking results. Research limitations/implications — This study provides an important contribution to the web research literature. The findings point to the value of meta-search engines in web retrieval to overcome the biases of single search engines. Practical implications — The results of this research can inform people and organizations that seek to use the web as part of their information seeking efforts, and the design of web search engines. Originality/value — This research is a large investigation into web search engine overlap using real data from a major web meta-search engine and single web search engines that sheds light on the uniqueness of top results retrieved by web search engines."
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  Vocabulary Encoding Scheme URI ( dcterms:LCSH )  
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  Value String ( "This study investigates the information seeking behavior of general Korean Web users. The data from transaction logs of selected dates from August 2006 to August 2007 were used to examine characteristics of Web queries and to analyze click logs that consist of a  
)
collection of documents that users clicked and viewed for each query. Changes in search topics are explored for NAVER users from 2003/2004 to 2006/2007. Patterns involving spelling errors and queries in foreign languages are also investigated. Search behaviors of Korean Web users are compared to those of the United States and other countries. The results show that entertainment is the top-ranked category, followed by shopping, education, games, and computer/Internet. Search topics changed from computer/Internet to entertainment and shopping from 2003/2004 to 2006/2007 in Korea. The ratios of both spelling errors and queries in foreign languages are low. This study reveals differences for search topics among different regions of the world. The results suggest that the analysis of click logs allows for the reduction of unknown or unidentifiable queries by providing actual data on user behaviors and their probable underlying information needs. The implications for system designers and Web content providers are discussed."

)}

Statement ( )

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Literal Value String ( "http://dx.doi.org/10.1016/j.lisr.2009.01.003"

Syntax Encoding Scheme URI ( dcterms:URI )

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ValueId ( soyeonpark )

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Property URI ( eprint:affiliatedInstitution )

Value String ( "Duksung Women's University. Department of Library and Information Science" )

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Literal Value String ( "The retrieval effectiveness of search engines on navigational queries" )
)
)
Statement (  

The purpose of this paper is to test major web search engines on their performance on navigational queries, i.e. searches for homepages. Design/methodology/approach – In total, 100 user queries are posed to six search engines (Google, Yahoo!, MSN, Ask, Seekport, and Exalead). Users described the desired pages, and the results position of these was recorded. Measured success and mean reciprocal rank are calculated. Findings – The performance of the major search engines Google, Yahoo!, and MSN was found to be the best, with around 90 per cent of queries answered correctly. Ask and Exalead performed worse but received good scores as well. Research limitations/implications – All queries were in German, and the German-language interfaces of the search engines were used. Therefore, the results are only valid for German queries. Practical implications – When designing a search engine to compete with the major search engines, care should be taken on the performance on navigational queries. Users can be influenced easily in their quality ratings of search engines based on this performance. Originality/value – This study systematically compares the major search engines.
on navigational queries and compares the findings with studies on the retrieval effectiveness of the engines on informational queries." )

Statement (  
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)

Statement (  
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Statement (  
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ValueURI ( <http://search.proquest.com.libaccess.sjlibrary.org/docview/874856986?accountid=10361> )  
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Literal Value String ( "Methods for evaluating dynamic changes in search engine rankings: a case study" )

)

Statement ( Property URI ( dc:subject )

Vocabulary Encoding Scheme URI ( dcterms:LCSH )

Value String ( "Case studies" )

)
The objective of this paper is to characterize the changes in the rankings of the top ten results of major search engines over time and to compare the rankings between these engines. Design/methodology/approach — The papers compare rankings of the top-ten results of the search engines Google and AlltheWeb on ten identical queries over a period of three weeks. Only the top-ten results were considered, since users do not normally inspect more than the first results page returned by a search engine. The experiment was repeated twice, in October 2003 and in January 2004, in order to assess changes to the top-ten results of some of the queries during the three months interval. In order to assess the changes in the rankings, three measures were computed for each data collection point and each search engine. Findings — The findings in this paper show that the rankings of AlltheWeb were highly stable over each period, while the rankings of Google underwent constant yet minor changes, with occasional major ones. Changes over time can be explained by the dynamic nature of the web or by fluctuations in the search engines' indexes. The top-ten results of the two search engines had surprisingly low overlap. With such small overlap, the task of comparing the rankings of the two engines becomes extremely challenging. Originality/value — The paper shows that because of the abundance of information on the web, ranking search results is of extreme importance. The paper compares several measures for computing the similarity between rankings of search tools, and shows that none of the measures is fully satisfactory as a standalone measure. It also demonstrates the apparent differences in the ranking algorithms of two widely used search engines."
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ValueId ( barilanuni )

)

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#9

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Description ( 
Resource URI ( <http://dx.doi.org/10.3163/1536-5050.95.2.156> )

Statement ( 

Library Philosophy and Practice 2014 http://digitalcommons.unl.edu/libphilprac/
Using the Turning Research Into Practice (TRIP) database: how do clinicians really search?
Clinicians and patients are increasingly accessing information through Internet searches. This study aimed to examine clinicians' current search behavior when using the Turning Research Into Practice (TRIP) database to examine search engine use and the ways it might be improved. Methods: A Web log analysis was undertaken of the TRIP database--a meta-search engine covering 150 health resources including MEDLINE, The Cochrane Library, and a variety of guidelines. The collectors for terms used in searches were studied, and observations were made of 9 users' search behavior when working with the TRIP database. Results: Of 620,735 searches, most used a single term, and 12% (n = 75,947) used a Boolean operator: 11% (n = 69,006) used "AND" and 0.8% (n = 4,941) used "OR." Of the elements of a well-structured clinical question (population, intervention, comparator, and outcome), the population was most commonly used, while fewer searches included the intervention. Comparator and outcome were rarely used. Participants in the observational study were interested in learning how to formulate better searches. Conclusions: Web log analysis showed most searches used a single term and no Boolean operators. Observational study revealed users were interested in conducting efficient searches but did not always know how. Therefore, either better training or better search interfaces are required to assist users and enable more effective searching.
Property URI ( dc:type )

Vocabulary Encoding Scheme URI ( eprint:EntityType )

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Statement (  

Property URI ( dc:title )

Literal Value String ( "Is Google enough? Comparison of an internet search engine with academic library resources" )

)

Statement (  

Property URI ( dc:subject )

Vocabulary Encoding Scheme URI ( dcterms:LCSH )

Value String ( “Web search engines” )

)

Statement (  

Property URI ( dc:subject )

Vocabulary Encoding Scheme URI ( dcterms:LCSH )

Value String ( “Internet searching” )

)

Statement (  

Property URI ( dc:subject )

Vocabulary Encoding Scheme URI ( dcterms:LCSH )

Value String ( “Case studies” )

)
The purpose of the study was to compare an internet search engine, Google, with appropriate library databases and systems, in order to assess the relative value, strengths and weaknesses of the two sorts of system. Design/methodology/approach - A case study approach was used, with detailed analysis and failure checking of results. The performance of the two systems was assessed in terms of coverage, unique records, precision, and quality and accessibility of results. A novel form of relevance assessment, based on the work of Saracevic and others was devised. Findings - Google is superior for coverage and accessibility. Library systems are superior for quality of results. Precision is similar for both systems. Good coverage requires use of both, as both have many unique items. Improving the skills of the searcher is likely to give better results from the library systems, but not from Google. Research limitations/implications - Only four case studies were included. These were limited to the kind of queries likely to be searched by university students. Library resources were limited to those in two UK academic libraries. Only the basic Google web search functionality was used, and only the top ten records examined. Practical implications - The results offer guidance for those providing support and training for use of these retrieval systems, and also provide evidence for debates on the "Google phenomenon". Originality/value - This is one of the few studies which provide evidence on the relative performance of internet search engines and library databases, and the only one to conduct such in-depth case studies. The method for the assessment of relevance is novel."


Vocabulary Encoding Scheme URI ( dcterms:LCSH )

Value String ( “Web sites--Design” )

)

Statement ( 

Property URI ( dc:subject )

Vocabulary Encoding Scheme URI ( dcterms:LCSH )

Value String ( “Webometrics” )

)

Statement ( 

Property URI ( dcterm:abstract )

Value String ( “The purpose of this paper is to identify the most popular techniques used to rank a web page highly in Google. Design/methodology/approach - The paper presents the results of a study into 50 highly optimized web pages that were created as part of a Search Engine Optimization competition. The study focuses on the most popular techniques that were used to rank highest in this competition, and includes an analysis on the use of PageRank, number of pages, number of in-links, domain age and the use of third party sites such as directories and social bookmarking sites. A separate study was made into 50 non-optimized web pages for comparison. Findings - The paper provides insight into the techniques that successful Search Engine Optimizers use to ensure a page ranks highly in Google. Recognizes the importance of PageRank and links as well as directories and social bookmarking sites. Research limitations/implications - Only the top 50 web sites for a specific query were analyzed. Analysing more web sites and comparing with similar studies in different competition would provide more concrete results. Practical implications - The paper offers a revealing insight into the techniques used by industry experts to rank highly in Google, and the success or otherwise of those techniques. Originality/value - This paper fulfills an identified need for web sites and e-commerce sites keen to attract a wider web audience.” )

)

Statement ( 

Property URI ( dc:identifier )

Literal Value String ( “http://dx.doi.org/101108/10662240710730470” )
Syntax Encoding Scheme URI ( dcterms:URI )

)

)

Statement ( 

  Property URI ( dc:creator )
  Value String ( “Evans, Michael P.” )
  ValueId ( michaelpevans )
)

Statement ( 

  Property URI ( eprint:affiliatedInstitution )
  Value String ( “University of Reading. Information Systems” )
  ValueId ( readinguniif )
)

Statement ( 

  Property URI ( eprint:isExpressedAs )
  ValueURI ( <http://hwang.cisdept.csupomona.edu/cis451/docs/seo/Analysing%20Google%20rankings%20through%20search%20engine%20optimization%20data.pdf> )
)

)

)

)


#12

@prefix dc: <http://purl.org/dc/elements/1.1/>

@prefix dcterms: <http://purl.org/dc/terms/>
@prefix eprint: <http://purl.org/eprint/terms/>

Description Set (  

Description (  

Resource URI ( <http://dx.doi.org/10.1080/02763915.2011.571177> )

Statement (  

Property URI ( dc:type )  
Vocabulary Encoding Scheme URI ( eprint:EntityType )  
Value URI ( <http://purl.org/eprint/entityType/ScholarlyWork> )

)  

Statement (  

Property URI ( dc:title )  
Literal Value String ( “Exploring Google to Enhance Reference Services” )

)

Statement (  

Property URI ( dc:subject )  
Vocabulary Encoding Scheme URI ( dcterms:LCSH )  
Value String ( “Web search engines” )

)

Statement (  

Property URI ( dc:subject )  
Vocabulary Encoding Scheme URI ( dcterms:LCSH )  
Value String ( “Information behavior” )

)

Statement (  

Property URI ( dc:subject )
Google is currently recognized as the world's most powerful search engine. Google is so powerful and intuitive that one does not need to possess many skills to use it. However, Google is more than just simple search. For those who have special search skills and know Google's superior search features, it becomes an extraordinary tool. To understand Google and use it to its full potential, one needs to fine-tune search skills and explore its features. For those familiar with Google's appropriate attributes, zeroing into the exact target may be accomplished in one hit—such is the efficiency of this highly underutilized engine.”

http://dx.doi.org/10.1080/02763915.2011.571177

“Jia, Peijun”

“Queensborough Community College”
ValueId (queensboroughcc)

)

Statement (  

Property URI (eprint:isExpressedAs)
ValueURI (  


)

)

)

#13  

@prefix dc: <http://purl.org/dc/elements/1.1/>  
@prefix dcterms: <http://purl.org/dc/terms/>  
@prefix eprint: <http://purl.org/eprint/terms/>

Description Set (  

Description (  

Resource URI (<http://dx.doi.org/10.1108/10662241011084112>)

Statement (  

Property URI (dc:type)

Vocabulary Encoding Scheme URI (eprint:EntityType)
Value URI (<http://purl.org/eprint/entityType/ScholarlyWork>)

)}

Statement (  

Property URI (dc:title)
Literal Value String ( “Classifying the user intent of web queries using k-means clustering” )

)
Web search engines are frequently used by people to locate information on the Internet. However, not all queries have an informational goal. Instead of information, some people may be looking for specific web sites or may wish to conduct transactions with web services. This paper aims to focus on automatically classifying the different user intents behind web queries. Design/methodology/approach - For the research reported in this paper, 130,000 web search engine queries are categorized as informational, navigational, or transactional using a k-means clustering approach based on a variety of query traits. Findings - The research findings show that more than 75 percent of web queries (clustered into eight classifications) are informational in nature, with about 12 percent each for navigational and transactional. Results also show that web queries fall into eight clusters, six primarily informational, and one each of primarily transactional and navigational. Research limitations/implications - This study provides an important contribution to web search literature because it provides information about the goals of searchers and a method for automatically classifying the intents of the user queries. Automatic classification of user intent can lead to improved web search engines by tailoring results to specific user needs. Practical implications - The paper discusses how web search engines can use automatically classified user queries to provide more targeted and relevant results in web searching by implementing a real time classification method as presented in this research. Originality/value - This research investigates a new application of a method for automatically classifying the intent of user queries. There has been limited research to date on automatically classifying the user intent of web queries, even though the pay-off for web search engines can be quite beneficial.”

Statement ()

Property URI (dc:identifier)

Literal Value String (“http://dx.doi.org/10.1108/10662241011084112”)

Syntax Encoding Scheme URI (dcterms:URI)

)

Statement ()

Property URI (dc:creator)

Value String (“Kathuria, Ashish”)

ValueId (ashishkathuria)
ValueId ( pennsunicist )

)

Statement (  
Property URI ( eprint:affiliatedInstitution )  
Value String ( “Queensland University of Technology. Information Technology” )  
ValueId ( quenslandunitit )

)

Statement (  
Property URI ( eprint:isExpressedAs )  
ValueURI ( <http://faculty.ist.psu.edu/jjansen/academic/jansen_user_intent_kmeans.pdf> )

)

)

)

#14

@prefix dc: <http://purl.org/dc/elements/1.1/>  
@prefix dcterms: <http://purl.org/dc/terms/>  
@prefix eprint: <http://purl.org/eprint/terms/>

Description Set (  
Description (  
Resource URI ( <http://dx.doi.org/10.1080/03043790701423815> )

Statement (  
Property URI ( dc:type )  
Vocabulary Encoding Scheme URI ( eprint:EntityType )
Value URI ( <http://purl.org/eprint/entityType/ScholarlyWork> )

Statement (  
  Property URI ( dc:title )  
  Literal Value String ( “Impact of commercial search engines and international databases on engineering teaching and research” )
)

Statement (  
  Property URI ( dc:subject )  
  Vocabulary Encoding Scheme URI ( dcterms:LCSH )  
  Value String ( “Web search engines” )
)

Statement (  
  Property URI ( dc:subject )  
  Vocabulary Encoding Scheme URI ( dcterms:LCSH )  
  Value String ( “Online databases” )
)

Statement (  
  Property URI ( dc:subject )  
  Vocabulary Encoding Scheme URI ( dcterms:LCSH )  
  Value String ( “Library resources” )
)

Statement (  
  Property URI ( dcterm:abstract )
)
Value String ( “For the last three decades, the engineering higher education and professional environments have been completely transformed by the 'electronic/digital information revolution' that has included the introduction of personal computer, the development of email and worldwide web, and broadband Internet connections at home. Herein the writer compares the performances of several digital tools with traditional library resources. While new specialised search engines and open access digital repositories may fill a gap between conventional search engines and traditional references, these should not be confused with real libraries and international scientific databases that encompass textbooks and peer-reviewed scholarly works. An absence of listing in some Internet search listings, databases and repositories is not an indication of standing. Researchers, engineers and academics should remember these key differences in assessing the quality of bibliographic 'research' based solely upon Internet searches.”)

)

Statement (Property URI (dc:identifier))

Literal Value String ( “http://dx.doi.org/10.1080/03043790701423815”)

Syntax Encoding Scheme URI (dcterms:URI)

)

)

Statement (Property URI (dc:creator))

Value String ( “Chanson, Hubert”)

ValueId (hubertchanson)

)

Statement (Property URI (eprint:affiliatedInstitution))

Value String ( “University of Queensland. Division of Civil Engineering”)

ValueId (queenslandundce)

)
Statement (  
    Property URI ( eprint:isExpressedAs )  
    ValueURI (  
)  
)  
)

#15  

@prefix dc: <http://purl.org/dc/elements/1.1/>  
@prefix dcterms: <http://purl.org/dc/terms/>  
@prefix eprint: <http://purl.org/eprint/terms/>  

Description Set (  
  Description (  
    Resource URI ( <http://dx.doi.org/10.3163/1536-5050.95.4.442> )  
  )  
)

Statement (  
    Property URI ( dc:type )  
    Vocabulary Encoding Scheme URI ( eprint:EntityType )  
    Value URI ( <http://purl.org/eprint/entityType/ScholarlyWork> )  
)

Statement (  
    Property URI ( dc:title )  
    Literal Value String ( “Comparing test searches in PubMed and Google Scholar” )  
)
This article discusses the enthusiasm and criticism that surrounds the Internet search engine tool Google Scholar. The computer program was designed to provide access to peer-reviewed research papers, theses, books, abstracts, and articles from academic publisher Web sites. The result of searches on the program were compared to the results found by the program PubMed.
Discussion-
In many ways, using Qualified Dublin Core to create records for scholarly works was intuitive and easy. Although there were many element to choose from, utilizing the “User Guide” made the process much easier, as it explained what information belonged in which element. In addition, the Advanced Dublin Core Generator contained plenty of supplementary material which explained the different standards that could be used with the appropriate elements. However, there were several fields that were never used for any of the articles, which I had to skip over every time, making the task longer as I paused at each element whether it was needed or not. It would have been helpful to be able to remove the elements that weren’t going to be used, making the process much quicker. In addition, when I searched for explanations of various elements, many of the instructions from the “User Guide” weren’t very specific and required additional research to find an answer. While flexibility is certainly an overall strength of Dublin Core, it can also be confusing, as instructions have to be general in order to accommodate everything. This is why application profiles were created and why I ultimately preferred using SWAP to create records for scholarly works.

Creating SWAP records required more work and attention to detail. First, creating a template of which elements to include took some time, as I could not find a free metadata generator that utilized SWAP. While creating this template I noticed that while many of the elements were the same, I appreciated how others were specific to scholarly works, and therefore easier to implement. For instance, when creating QDC records, each time I had to select “abstract” from a dropdown menu that also contained “description” and “table of contents,” adding to length of the process. However, when creating SWAP records, abstract was automatically the chosen element, as it was most relevant to scholarly works.
I also appreciated the specific instructions that accompanied each element from the SWAP user guide. Each element had its general use in DC and then a specific recommendation for scholarly works, allowing me to see the differences between the two. This made entering data into each element far easier, as I knew exactly what belonged there without any additional research. For instance, when choosing subjects to include in the record, the SWAP user guide recommended that they be unique, specific, and to avoid being overly general. With this knowledge I was able to eliminate many superfluous subjects carried over from the QDC records, creating a more accurate representation of what the scholarly work was actually about. Overall, I believe that including elements specific to scholarly works (abstract, grant number, funder, etc.) and specific instructions made creating records with SWAP much easier.

Not only was it easier to create records with SWAP, but the records themselves were more accurate and uniform than those created with QDC. For instance, when creating QDC records there many options for what could be put in the identifier element, making it unclear as to what belonged there. However, the SWAP user guide recommends that a URI be used in the identifier field and includes specific examples to illustrate the format, instead of various options that could be used depending upon the scenario. Based on this, almost all of my SWAP records have an accurate URI, making them better tools for those seeking information. Other elements like the “affiliated institution” aid in accessibility, as academic users may only remember which institution the article they are searching for came from, or want to access all academic articles from an institution with a particular focus. In general, unique elements specific to scholarly works made these objects more accessible, and the detailed instructions made the records more uniform and accurate.
Conclusion-

Qualified Dublin Core is an excellent update on Simplified Dublin Core and allows cataloguers to create detailed records appropriate for more complex works like scholarly articles. However, when applying QDC to scholarly works, many of the elements were superfluous, or required additional explanation, creating a lengthier cataloguing process. In contrast, when creating SWAP records, most of the elements were utilized and specific to scholarly works, creating a much smoother process. In addition, the specific instructions in the SWAP user guide aided in making the cataloguing process much quicker. These same instructions also helped create more uniform and detailed records. Overall, creating records for scholarly works with SWAP was much easier than with QBC, and the records were of better quality, increasing accessibility.
References


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http://dublincore.org/documents/dcmi-terms/


JISC (n.d.a). *Mapping the scholarly works application profile to simple dc*. Retrieved from

http://www.ukoln.ac.uk/repositories/digirep/index/Mapping_the_Scholarly_Works_Application_Profile_to_Simple_DC

JISC (n.d.b). *Scholarly works application profile*. Retrieved from

http://www.ukoln.ac.uk/repositories/digirep/index/Scholarly_Works_Application_Profile


Appendix A

Here are search screen visuals for CDM. The first image is the initial search result at University of Washington University Library website of its CONTENTdm digital collections: http://content.lib.washington.edu/index.html

Sample of search result for “Mask”.

Sample of details for record #2 selected above. The digital image is above and the descriptive metadata is displayed below.
American Indians of the Pacific Northwest Collection

Tsimsian carved face mask, British Columbia, 1912

Title
Tsimsian carved face mask, British Columbia, 1912
Photographer
Emmons, George Thornton
Date
1912
Notes
Carved mask of wide-mouthed face; seven ‘spokes’ extend from the face, with hunks of hair extending from the spokes. Displayed on wooden platform next to exterior wall.
Subjects
Still life photographs—British Columbia; Wood carvings—British Columbia; Tsimsian Indians—Arts & crafts; Masks
Location Depicted
Canada—British Columbia
Object Type
Photographs
Negative Number
NA3403
Digital Collection
American Indians of the Pacific Northwest Images
Collection
George Thornton Emmons Collection no. 131
Repository
University of Washington Libraries. Special Collections Division
Ordering Information
To order a reproduction, inquire about permissions, or for information about prices see:
http://www.lib.washington.edu/specialcollections/services/reproduction-info
Restrictions
http://content.lib.washington.edu/aipnw/copyrights.html
Transmission Data
Image/JPEG

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Appendix B

Here are search screen visuals for CP. The first image is the initial search result at Arlington Public Library’s website (Arlington, Virginia) of its Content Pro digital collections:

Sample of search result for “airplane”. The display shows a thumbnail with the photo obscured partially by the title.

Then, when the image is clicked on there is a larger image displayed with the descriptive metadata below.
"Orville Wright and his World Record-breaking Aeroplane, Fort Myer, Va."

<table>
<thead>
<tr>
<th>Title:</th>
<th>&quot;Orville Wright and his World Record-breaking Aeroplane, Fort Myer, Va.&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publisher:</td>
<td>B.S. Reynolds Co.</td>
</tr>
<tr>
<td>Subject:</td>
<td>Wright, Orville</td>
</tr>
<tr>
<td></td>
<td>Airplanes</td>
</tr>
<tr>
<td></td>
<td>Fort Myer</td>
</tr>
<tr>
<td>Description:</td>
<td>Image of Orville Wright flying his airplane at Fort Myer, Virginia.</td>
</tr>
<tr>
<td>Contributor:</td>
<td>Dorothy Daniel</td>
</tr>
<tr>
<td>Identifier:</td>
<td>Airplane postcard</td>
</tr>
<tr>
<td>Source:</td>
<td>Dorothy Daniel Postcard Collection</td>
</tr>
<tr>
<td>Type:</td>
<td>Image</td>
</tr>
<tr>
<td>Format:</td>
<td>Postcard</td>
</tr>
<tr>
<td></td>
<td>black and white</td>
</tr>
<tr>
<td></td>
<td>3 1/2 in. by 3 1/2 in.</td>
</tr>
<tr>
<td>Spatial:</td>
<td>Arlington County (Va.)</td>
</tr>
<tr>
<td>Temporal:</td>
<td>1900s</td>
</tr>
<tr>
<td></td>
<td>1910s</td>
</tr>
<tr>
<td>Rights:</td>
<td>This image is subject to copyright. Unauthorized use of the images in the</td>
</tr>
<tr>
<td></td>
<td>Local History Photograph Collections of the Arlington Community Archives is</td>
</tr>
<tr>
<td></td>
<td>prohibited</td>
</tr>
<tr>
<td>Rights Holder:</td>
<td>Virginia Room, Arlington Public Library</td>
</tr>
</tbody>
</table>