Theme
Technical Management of Islamic Information Resource

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Topic
Resource Description for Islamic Digital Resources:
Issues and Problems in the Malaysian e-Government
Resource Description for Islamic Digital Resources: Issues and Problems in the Malaysian e-Government

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ABSTRACT
The current information management trend requires any information, no matter how it is created to be also represented in digital form. The condition applies also to Islamic information. However, reservations are raised with regard to the extent of authoritativeness of the widely available digital Islamic information. It is imperative that Muslims are assured of access to authoritative and valid information on Islam. The identification and accessibility of reliable and trustworthy Islamic digital resources, especially from government agencies are most crucial. Hence, it is essential for government agencies to ascertain and ensure the resource description used and applied is effective and practical. Precise and appropriate resource description is prerequisite for effective and efficient resource discovery and usage of digital resources. The full application and compliance to resource description framework, standard and principles is most important in describing information resources. And, the foundation for resource description is metadata. Metadata explores the data elements used to describe and represent digital resources. It is significant as it supports both
the discovery and the use of objects and provides information about
the entire resource or part of it. Besides that, metadata promotes
the share, reuse and interoperability of data and information,
especially in the access, browsing, cleaning and aggregation of
databases. Useful and cost effective metadata requires appropriate
and suitable structures, semantics and syntax that conform to
widely accepted and supported standards. Research in the area of
metadata concludes that the underlying principle for any metadata
initiatives is to link and integrate heterogeneous, multi-platform,
massive digital information collections contributed by multiple
institutions into a single unified resource to enable access to digital
repository by anyone, from any place, at any time. A number of
these metadata initiatives provide detailed and descriptive
information about the digital resource to facilitate discovery by
users, however describing digital resources in a consistent fashion
may not be an easy task, and in some cases a very complex and
unique process. Thus, this paper attempts to highlight the issues
and problems faced in developing digital resources, such as
visibility and accessibility issues, and also the adoption of various
standards for resource description which will definitely affect the
resource discovery and interoperability of Islamic digital resources
in Malaysia. In conclusion, the paper will recommend some
workable solutions to the relevant authorities for consideration,
especially in overcoming the issues and problems raised.

**KEYWORDS:** Islamic Digital Resources; Resource Description;
Metadata; Resource Discovery; Malaysian E-Government
Introduction

Today, the dependency on the Internet as a primary source of information is growing exponentially. The Internet has become a major source of reference for every society. It is widely used and has become the most effective communication tool and information provider. However, the accuracy of the information provided by the internet is not guaranteed. This is due to the fact that everybody can create and publish it in the internet, and there is no law regulating the publication of the information. There is no control on who creates the information, and thus the accuracy and reliability of the information published in the internet can be a questionable issue. This phenomenon can cause perilous repercussions as the burden of evaluating the accuracy and reliability of information retrieved from the Internet is now shifted to the users or consumers.

In Malaysia, since 1997, the government launched the Electronic Government initiative to reinvent itself in order to steer the country into the information age. The implementation of the e-Government in Malaysia is a sign of the beginning of a journey of reinventing the government by transforming the way it operates; enabling better decision making; as well as modernizing and enhancing its services by offering the public a variety of service delivery options. The Malaysian E-Government seeks to enhance the convenience, accessibility and quality of interactions with the public and businesses at large. Realizing the vision of the e-government, all public sectors inclusive of the Islamic institutions at the Federal and State levels have implemented several e-Government projects such
as Department of Islamic Development Malaysia (JAKIM), Jabatan Agama Islam Selangor (JAIS), Institute of Islamic Understanding Malaysia (IKIM), Lembaga Tabung Haji, Pertubuhan Kebajikan Islam Malaysia (PERKIM), etc.

Most of these institutions have developed their organization’s web pages to provide the public with information about the organizations as well as information related to their areas and disciplines. For the Islamic Institutions, providing accurate, reliable and authoritative information on Islam is the most crucial role and responsibility. Not only are these institutions supposed to disseminate high-quality and reliable information, they are also responsible to gather vital facts, data, figures and statistics to present a much clearer picture of issues regarding the Muslims and Islam in Malaysia. The utilization and application of accurate and reliable information is critical because it can have an effect on the Muslim's Belief and Aqidah in Islam. All Muslims in this country must recognize that they ought to only rely on information provided by the relevant and authoritative Islamic institutions. In this context, the provision of accurate and reliable information alone is insufficient. These institutions must ensure the accessibility and effective discovery of the information by the public. These goals can only be achieved if the information has been provided with appropriate, quality and rich resource description through the use of metadata.

**Metadata for Resource Discovery**

Metadata is information in a structured format that describes a resource. Good quality metadata improves the efficiency of
searching, making it much easier to find something specific and relevant. According to Dillon (2001) resource discovery is impossible without adequate resource description. It is believed that the greatest potential for improvements to the resource discovery on the Web lies in the use of metadata. Undoubtedly, there is value in the current search engines as the main resource discovery tools on the Web, which operate without the aid of descriptive metadata. However, for them to be more effective and efficient metadata has to matter and they have to move beyond the full text indexing of the Web. Creating the metadata schemas for web resources is essential, but not sufficient. For a metadata schema to be an impact factor in resource discovery, it has to be widely accepted and deployed both by content providers and by web indexing services in a systematic way.

The existence of metadata is a prerequisite for efficient search mechanisms. Without metadata, a search engine may search by the name of content units or even index the full content. Under such conditions, it is likely that search results do not or just partially contain appropriate content. With metadata-like categories and links to other content units available, a search engine not only uses the content itself but also the context provided by the metadata and thus compute significantly better results (Coulendre et al., 1999).

Metadata also serves functions in resource discovery by allowing resources to be found by relevant criteria, identifying resources, bringing similar resources together, distinguishing dissimilar resources and giving the locations of the resources. Resource
discovery will be hampered without structured metadata. The digital resources will simply disappear into ‘digital oblivion’ or appear in searches in a haphazard manner without metadata or with poor metadata.

The value of government information resources is increasing. Effective information management of these resources is essential for the provision of services to its public. One of the goals that should be accomplished by the e-government in this country is to provide the public with efficient access to the accurate and reliable sources of reference. Simply putting information on a website is not enough. There is so much information on the Internet that it has become very difficult to find anything specific. By adding metadata to the resources, it will assist the public to access those resources in a more effective and efficient manner.

Issues
Common metadata standards include Dublin Core, meta tags, RDF, TEI, etc. have been developed in order to facilitate the organization of web resources. However, as stated by Thomas and Griffin (2002) they are not widely implemented. A number of researches have been conducted to evaluate the usability of metadata in creating web pages and portal and its effect on the accessibility of web resources. Craven (2001) collected a random sample of 628 web pages registered with Yahoo! and analyzed them for the use of meta tags, specifically the description tags. The findings indicated that only 10% of the registered web pages used the descriptive tags. Turner and Brackbill (1998) conducted an
experiment to evaluate the effectiveness of using an HTML meta tag to improve retrieval of web documents through the Internet search engines. The findings demonstrate that the use of keywords attribute in a meta tag substantially improves accessibility. Mohamed (2005) examined the impact on rank order of having metadata for web pages. In his study, 300 Arabic web sites have been examined and the result indicates that 98.6% of the sites do not implement any metadata standards at all. A study by Drott (2001) of corporate web site use of meta tags showed that only slightly more than a third of the web sites were using Meta tags. Drott determined that if web sites increased their usage of Meta tags, the overall index coverage of the web could be improved.

Although metadata could greatly improve the retrieval of information on the web (Marchiori, 1998), the issue of actually generating the metadata still remains. This is due to the fact that many web pages already in existence are without metadata. Furthermore, there are currently no requirements for people to create metadata for their web pages so they do not generally take the time to generate metadata (Marchiori, 1998). For those who do generate their own metadata, there are issues of consistency and reliability (Jenkins, Jackson, Burden, & Wallis, 1999). This is because there is no a single, agreed-upon standard for metadata for web content. As a result, the issue of consistency and reliability emerged.

In Malaysia, the existence of web pages without metadata is also an issue. Based on a random investigation on the web pages of
several local Islamic institutions, there is an indication that metadata is still not the concern of these institutions when developing their web pages. Figures 1, 2, 3, 4 and 5 are samples of web pages that have been developed by those institutions. Clearly, from the source viewed these web pages do not employ the use of structured metadata. There is no doubt that these web pages contain crucial resources that would be of interest to the Muslims for every conceivable purposes in life such as decision making; conducting rituals and practices that are in conformance to the tenets of Islam, etc. However, the resource discovery of those resources is not efficient. Searching conducted through the use of search engines such as Google or Yahoo! could not lead the searchers directly to the resources. It is obvious that direct accessibility to the resources could only be possible through their individual web page addresses or the names of the organizations.

Figure 1: Extracted from http://www.e-fatwa.gov.my/
Figure 2: Extracted from http://www.e-fatwa.gov.my/

Figure 3: Extracted from http://www.islam.gov.my/portal
The use of keywords such as “prosidur akad nikah Sabah”; or “borang nikah Selangor”; (Figures 6 & 7) could neither lead the searchers directly to relevant resources of the Jabatan Hal Ehwal Agama Islam Negeri Sabah (JHEAINS) nor the Jabatan Agama Islam Selangor (JAIS). Instead users are led to dot.com resources...
or blogs which are non-authoritative, questionable and cannot be relied upon at all. An attempt to locate “borang nikah kahwin wilayah persekutuan” led users to the Jabatan Agama Islam Wilayah Persekutuan website. Then a search through the site’s own search engine by using the term “borang nikah kahwin” resulted in 3 hits. The forms are available in the pdf format (Figures 8, 9 & 10). Strange as it may sound, but a search using the term “borang nikah negeri Terengganu” retrieved the pdf format of a different form, i.e. Borang Permohonan Salinan Surat Akuan Cerai (application form for a copy of the divorce declaration letter) from the Jabatan Hal Ehwal Agama Terengganu (JHEAT). This form in question is however available in the JHEAT website under the link of downloads (MUAT TURUN) (Figures 11 & 12). Definitely, the outcome of the searches conducted proved that the absence of metadata has made it difficult for a searcher to accurately zoom-in to the required resources, and quite often they have to resort to trying out many ways in order to finally retrieve and discover the information needed. Certainly, users have to put in the time and effort into identifying and locating information and this is something that users do not have the luxury to indulge in.
Fig. 6: Extracted from http://search.yahoo.com/search

Fig. 7: Extracted from http://search.yahoo.com/search
World Congress of Muslim Librarian & Information Scientists
25th - 27th November 2008
Putra World Trade Center

Fig. 8: Extracted from http://search.yahoo.com/search

Fig. 9: Extracted from http://www.jawi.gov.my
Fig. 10: Extracted from http://www.jawi.gov.my/melayu/borang/borang_nikah.pdf

Fig. 11: Extracted from http://search.yahoo.com/search
Fig. 12: Extracted from

Recommendations
As metadata is considered structured data about data, it implicitly means machine readability and understandability and hence it has been identified with issues of Internet resource discovery. It is without a doubt that the web pages of local Islamic institutions lack metadata for their efficient and effective discovery and retrieval. It goes without saying then that there is not even any metadata standard applied by these institutions.

Dublin Core Metadata Element Set (DCMES) is an established standard and should be adopted as a standard for resource description for the Web. It can be used in its direct current form or adapted to suit with the requirements, aims and needs of these institutions. The element set can also be extended to enable more complex description for particular specialist domains, as well as to extend the types of resources described. The elements that relate to the content of the resource; to the intellectual property
characteristics of the resource; and the physical manifestation of the resource enable the DCMES to function in both the national and international contexts. The usability and flexibility nature of DCMES make it an easily understood standard and one which does not require much training before implementing it. It is largely accepted amongst various resource discovery communities. For example, DCMES has been formally accepted as the standard for the Australian Government Locator Service (AGLS) and the UK government’s Electronic Government Metadata Standard (eGMS).

It is imperative for metadata creators or their agents to support the use of appropriate, quality and rich metadata to enhance the retrievability of the resources. In this context, metadata creators or their agents must be knowledgeable, skilled and constantly have the users uppermost in their minds. The questions on how users look for information, or what their common approaches are, must consciously and carefully be thought out in order to include specificity in keyword assignment and generate consistent metadata that will be useful for searching and retrieval. Keywords assigned during the metadata generation process can either aid or hinder a document’s subsequent retrieval. Omitting key topical terms will generally lead to recall failure while the use of inappropriate or incorrect terms will lead to precision failure. (Lancaster, 2002). These institutions must view metadata as a critical tool for improving the public’s access to their informational resources. To this end, it is recommended that the selection of keywords be from a controlled vocabulary such as a thesaurus, or the institution’s list of authoritative terms to ensure consistency in
use of terms to describe the subject matter of the resources. Ideally, the institutions themselves can design the controlled vocabulary list; however, it is a huge endeavor that is time-consuming and expensive. Suffice that an existing controlled vocabulary tool be identified and used.

Seeing that the Islamic government institutions whether at the Federal or State levels are responsible for the management and administration of Islamic affairs and of Islamic information in the country, it is highly recommended that the websites created by them follow the guidelines or principles that is set by a National Metadata Coordination Committee (a suggested title). This particular committee should be established to provide the base for current research developments, tools, and activities affecting metadata; to develop guidelines, usage guides that are relevant to the standard adopted; and to coordinate and participate in the development and review of standards concerning metadata. Members of this committee can be appointed from the various relevant government organizations, such as the National Library of Malaysia, MIMOS, Multimedia Development Corporation, etc. This committee can engage in the advisory capacity to the government of Malaysia. Ongoing training programs and opportunities that contribute to and enhance an understanding of networked resources and metadata, their identity, content, technology, access, control, and use must be developed and fostered. This recommendation is made based on the findings of a study (Salmah Salleh, et al., 2005) which revealed that a large number of government personnel are not at all aware or have a minimal
awareness about metadata and its importance to the retrieval and discovery of electronic resources.

Conclusion

The Internet has been seen to have great potential in spreading the word of Islam and through which the Information can reach millions of people inexpensively. However, misleading information could threaten the Muslim’s belief and faith. Thus it is crucial for them to only refer to reliable sources of information of Islam. The reliable sources of information must be provided by reliable and authoritative bodies. The resource discovery of the information can be made efficiently to users if they are being described by appropriate and quality metadata. With the capability to retrieve information in various ways, using metadata in an electronic environment offers opportunities to automate many other activities that provide systematic, consistent and reliable handling of information. The Malaysian e-government initiatives should be reliant upon consistent and standardized metadata to ensure the increased discovery, visibility and accessibility of authentic, unaltered and reliable information.
References


Coulendre et al. (1999). Common appliances of metadata can be found in web. sites using meta tags to describe their content and in the common concept … Retrieved July 10, 2008 https://web-imtm.iaw.ruhr-unibochum.de/pub/bscw.cgi/0/208299/30524/30524.pdf


