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# Managing change to enhance Web-based services in the Arabian Gulf libraries

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## Abstract

An e-mail survey of seven Arabian Gulf university libraries was conducted in order to ascertain which types of Web-based services they offer to users. The study specifically looked at the provision of access to Web-based services such as catalogues, search engines, forms, etc. through the respective library Web sites. Findings showed that almost all libraries are offering Web-based services to users in one way or the other. This paper also discusses ways to improve and reinforce provision of such Web-based services, including effective methods of creating awareness and delivering the orientation and training necessary to create a positive environment for change. Finally, the results of the study may be helpful especially to librarians of the Arabian Gulf libraries in enhancing or developing quality web-based services.

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## Introduction

The World Wide Web offers libraries tremendous opportunities to provide useful library and information services to users, and to gain access to various electronic information resources and services available in cyberspace. This is being achieved through the creation of library home pages (Chisenga, 1998). The traditional methods of offering library and information services have changed greatly in recent years because of the development and application of new technology, especially the Internet. The demands and expectations of users have also changed considerably. In this changed scenario, more and more libraries the world over are exploring and offering new Web-based services such as Web catalogues, Web search engines, Web forms etc. to satisfy the library and information demands of its users. However, mere provision of such Web-based services is not an end in itself. There is an imperative need for libraries to exercise proper awareness, necessary orientation and training of such newly introduced services in order to create a positive environment for change. Managing change means taking control of and shaping the direction, then influencing in some way the outcome of change (Odini, 1990). Rapidly evolving technology is bringing change to academic libraries in unprecedented ways. In fact, managing change is the most significant challenge facing libraries today and for the foreseeable future. Many techniques, processes, concepts and methodologies have been proposed to help librarians deal with change. Librarians have to learn how to become effective "change agents". One strategy for managing the changes due to the Internet is to provide user training (Marchionini and Nitecki, 1987). Also, for effectively managing change, we must develop our planning and communication skills. Communication is a very important factor in the management of change (Odini, 1990). One of the major problems in making change acceptable is poor communication within the organisation. The refusal to accept change is partly a problem in communication. Good communication on change is very important throughout the library or information organisation.

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The main purpose of this paper is to present the current status of Web-based services offered by the selected Arabian Gulf university libraries. The paper will also review and discuss various methods employed by these universities for creating awareness, orientation and training of users. Finally, the paper will focus on the imperative need for enhancing the quality of web-based services and the awareness, orientation and training programs for creating a positive environment for change.

### **Web-based services**

Librarians have found the provision of Web-based services to be a very worthwhile endeavour (Haloub, 1999). Library users value the services that they access from their desktops because the services save time. They also appreciate being able to access services at their convenience, without being restricted by the library's hours of operation. Libraries are invariably providing Web-based services such as catalogues, search engines, forms, instructions, distance learning, e-reserves, etc.

### **Web catalogues**

There now exists a critical mass of resources for technical services work available via the World Wide Web. Some of these resources are provided by commercial vendors on payment of a fee. Many resources are free, some being provided by particular libraries and some by knowledgeable and enthusiastic individuals (Poulter, 1997).

Web-based Online Public Access Catalogues (Web OPACs) began to appear in the late 1990s and many libraries are currently considering implementation (Babu and O'Brien, 2000). By utilising the options which the World Wide Web offers, OPACs can be made the starting points of choice when searching the Web for scientific and technical information (Harmsen, 2000). In fact, Web OPACs not only offer simplified access to library holdings for end-users, but also enable librarians to add value to their catalogue data.

### **Web search engines**

Search engines are popular tools for locating Web pages, they crawl the Web and log the words from the Web pages they find in their databases. It is always a good idea to create a page with links to the search engines that

librarians are comfortable using and rely on (Minkel and Feldman, 1999). Libraries must draw users' attention to the fact that there are a few search tools they can choose from on that page. A very short text note in a larger font size may be attached to remind young users to read the help or tips section on each search engine if they have trouble finding good information.

### **Web forms**

Electronic services are currently offered via electronic mail by many libraries, but there are limitations. However, the Web-based forms improve upon these limitations and add value to the library's electronic services (Haines and Grodzinski, 1999). Forms let the user write back to libraries with comments, or suggest a new book, make a book renewal or request for a library instruction class etc., or select from a host of other alternatives. Communication between users and libraries is enhanced when electronic forms are introduced to these communities (McCloskey, 1996).

### **Orientation and training**

The Web environment is proving to be another useful platform for library instruction. As library users and students are becoming informed online users, it is important that librarians be ready to offer online instruction. Over the past few years libraries have come to rely on the Web to perform different types of job functions. It is not surprising that the Web has become a potential tool to extend library-instruction capabilities (Smith, 2001). The information environment has become more complex with the growth of online resources. In addition to teaching users about traditional print library resources, now it is imperative to include electronic databases and journals, as well as World Wide Web resources and services. This requires greater attention to instruction on search and evaluation methods. The Web is without doubt an exciting tool for librarians to use to enhance the learning environment of users. However, Web-based library instruction should not substitute completely for librarian interaction with users.

### **Methodology**

The first activity undertaken was to identify universities of the Arabian Gulf region that

have access to the Internet and have also established library home pages. This information was obtained by searching the Internet and through personal contacts. A total of seven major university libraries are selected for this study (Table I). They are the libraries of Arabian Gulf University (AGU), King Fahd University of Petroleum and Minerals (KFUPM), Kuwait University (KU), Sultan Qaboos University (SQU), University of Bahrain (UOB), University of Qatar (UOQ) and the United Arab Emirates University (UAEU). It should be noted that in terms of library organisation, size of collection, number of staff, service activities and computer applications, they are considered by default the main libraries in their respective countries. All these libraries have already established their Web sites (Ahmed, 2000).

The survey was conducted via e-mail. The survey questionnaire was sent to each of the seven selected Arabian Gulf libraries. The questionnaire consisted of multiple-choice questions requiring one or more answers. All the questionnaires were returned.

## Findings and discussion

### Web catalogues

The library automation systems used by six libraries (AGU, KU, SQU, UAEU, UOB and UOQ) support Web-based OPAC access (see Table II). DOBIS/LIBIS used by KFUPM is basically a first generation system and does not support Web-based access. However, in order to provide OPAC access through its library Web site, it utilises emulator programs – WebConnect (Internet Explorer) and Host-On-Demand (Netscape Communicator). In addition, a separate program WebPAC has been developed by the Information Technology Centre, exclusively for Web-based OPAC access using Active

Server Pages (ASP) technology. In fact, DOBIS/LIBIS' successor product Amicus does support Web-based OPAC access and has been successfully implemented at the SQU library. Because of the Web-enabled capability of library automation systems such as Horizon, VTLS, Amicus etc., all seven libraries provide internal OPAC access and at least two libraries (KFUPM and UOB) provide links to external OPACs as well. Web catalogues have proven to be very useful and they serve as a gateway to resources not held by the particular library but also to the holdings of other linked libraries. In addition to users, cataloguers at the KFUPM library are utilising external Web catalogues (The Library of Congress Online Catalogue, OhioLink Central Catalogue, The British Library Online Catalogue etc.) especially for copy cataloguing purposes. Therefore, it will be worthwhile to effectively manage provision of such Web catalogues to enhance Web-based services for the benefit of both users and library staff.

### Web search engines

At least three libraries (KFUPM, UOB and UOQ) do provide links to both Arabic and English search engines (see Table III). Three other libraries (AGU, KU and UAEU) have not yet provided links to either of them. However, the SQU library is expected to provide such links through its redesigned library Web site. There are plenty of search tools on the Web such as search engines (AltaVista), subject directories (Yahoo), and meta engines (MetaCrawler). Although search engines and subject directories are very popular tools for locating Web pages, they often return thousands of results. Therefore, without a clear strategy, using a search engine or subject directory is like wandering aimlessly in the stacks of a library trying to find a particular book. Search capabilities vary

Table I Selected Arabian Gulf university libraries

Arabian Gulf University Library (AGU)	<a href="http://www.agu.edu.bh/english/library/index.htm">http://www.agu.edu.bh/english/library/index.htm</a>
King Fahd University of Petroleum and Minerals Library (KFUPM)	<a href="http://www.kfupm.edu.sa/library/index.htm">http://www.kfupm.edu.sa/library/index.htm</a>
Kuwait University Library (KU)	<a href="http://www.kuniv.edu.kw/English/resources/libraries.htm">http://www.kuniv.edu.kw/English/resources/libraries.htm</a>
Sultan Qaboos University Main Library (SQU)	<a href="http://www.squ.edu.om/lib/">http://www.squ.edu.om/lib/</a>
United Arab Emirates University Zayed Central Library (UAEU)	<a href="http://www.libs.uaeu.ac.ae/">http://www.libs.uaeu.ac.ae/</a>
University of Bahrain Library (UOB)	<a href="http://www.uob.edu.bh/library/index.htm">http://www.uob.edu.bh/library/index.htm</a>
University of Qatar Library (UOQ)	<a href="http://www.qu.edu.qa/english/library/libraries.htm">http://www.qu.edu.qa/english/library/libraries.htm</a>

Table II Web catalogues

Library	Library automation system	Web-based OPAC	Internal OPAC link	External OPAC link
AGU	Horizon	Yes	Yes	No
KFUPM	DOBIS/LIBIS	No	Yes	Yes
KU	VTLS	Yes	Yes	No
SQU	Amicus	Yes	Yes	New update
UAEU	VTLS	Yes	Yes	No
UOB	Horizon	Yes	Yes	Yes
UOQ	Minisis	Yes	Yes	No

Table III Web search engines

Library	Arabic	English
AGU	No	No
KFUPM	Yes	Yes
KU	No	No
SQU	In new update	In new update
UAEU	No	No
UOB	Yes	Yes
UOQ	Yes	Yes

from engine to engine and they differ greatly in size, accuracy, features, and flexibility. Some of the popular search engines and subject directory links provided by a good number of libraries are Ayna, Konouz, Sakhr, etc. (Arabic) and AltaVista, Google, Yahoo, etc. (English).

A list of major search engines, including some specialised ones, can be found at Search Engine Watch (<http://www.searchenginewatch.com>). Another good source is the "Guides to specialised search engines", (<http://www.searchability.com>). It gives a complete list of guides (with descriptions) to thousands of search engines covering hundreds of subjects. Listed in approximate order of size, specificity of subject categories, and some aspects of search engine collection quality. Therefore, it will be beneficial if such popular and specialised search engines are provided to the users through the library Web sites. Also, a brief explanation may be attached, wherever necessary, with each search engine to assist users in selecting an appropriate one.

### Web forms

All the seven libraries are using postal mail and e-mail as major communication channels with their users (see Table IV). In addition to snail mail and e-mail three libraries (KFUPM, UAEU and UOB) have also provided Web-based forms in respect of book recommendations, comments and suggestions and ILL requests. The other three

libraries (AGU, KU and UOQ) have not yet provided any type of Web forms so far. However, the SQU library is expected to provide such services through their revised Web site. In fact, the most exciting and useful feature of the Web is the implementation of electronic forms. Forms provide a way for collecting detailed information from Web users. With the form, the librarian plays an active role in the library-patron relationship. As opposed to e-mail, where the patron is required to initiate the interaction, the form reaches out and takes the first step. An attractive fill-in-the-blank structure guides the unsure user through the request transaction with clarity and purpose. Apart from post and e-mail, Web-based forms may be extensively provided to enable users to communicate their library and information needs from their desktops, without having to leave classrooms and offices. The author's own experience at the KFUPM library is that Web-based forms, which were introduced recently, have already proven to be very popular among users.

### Orientation and training

All the seven libraries have a regular library instruction programme for training users, which includes instruction about the Web-based services (see Table V). Libraries are also using e-mail, online guides and guided tours for imparting library instruction. Interestingly, all the libraries believe in the human touch and are using personal contact for creating awareness among users. Other methods include the use of e-mail, library and university newsletters, posters and telephone contacts. In fact, libraries must use all forms of communication (post, e-mail, personal contact, library newsletter etc.) in order to impart effective training and awareness. In addition, Web-based instruction may be implemented to facilitate change taking place with the introduction of varied types of electronic resources and services. Library

Table IV Web forms

Library	Communication methods							
	Web forms				Comments			
	Post	E-mail	Ask the librarian	Recommend book	Book renewal	and suggestions	Library instruction	Others
AGU	Yes	Yes	–	–	–	–	–	–
KFUPM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	ILL
KU	Yes	Yes	–	–	–	–	–	–
SQU	Yes	Yes	–	In new update	–	–	–	ILL in new update
UAEU	Yes	Yes	Yes	Yes	Yes	Yes	Yes	ILL
UOB	Yes	Yes	–	Yes	–	Yes	–	Patron information regarding borrowed books and ILL
UOQ	Yes	Yes	–	–	–	–	–	Fax, telephone

Table V Orientation and training

Library	Training method					Awareness methods				
	LIP	E-mail	Regular			E-mail	Library		Others	
			Online guides	Other	LIP program		Web-based instruction	Personal contact		news-letter
AGU	Yes	–	–	–	Yes	Yes	Yes	Yes	–	Posters
KFUPM	Yes	Yes	Yes	Tour	Yes	Yes	Yes	Yes	Yes	Univ. news-letter
KU	Yes	–	–	–	Yes	Yes	Yes	Yes	Yes	–
SQU	Yes	–	–	Tour	Yes	Yes	Yes	Yes	Yes	Lectures
UAEU	Yes	–	Yes	–	Yes	Yes	Yes	–	–	Web site
UOB	Yes	–	Yes	–	Yes	Yes	Yes	Yes	–	Univ. news-letter
UOQ	Yes	–	–	–	Yes	Yes	Yes	–	–	–

instruction on the Web can support and complement classroom instruction by expanding the librarian's teaching options and by expanding the student's options of time and place for instruction (Dewald, 1999). Distance education users who could not come to the campus could benefit from Web-based library instruction. In addition, such instruction can be offered as an extension of the library classroom experience for on-campus users as well.

## Conclusion

Findings of the survey show that all the libraries are offering selected Web-based services such as catalogues, search engines, forms etc. to their users. However, these

services need to be improved, reinforced and further expanded to include e-reserves, distance learning modules, Web instructional courses and related services. A few libraries have also provided links to some popular search engines/subject directories. It will be of great help to users if a range of useful search engines/subject directories, that librarians are comfortable using and rely on, may be provided through the library Web sites.

Training and awareness play an important role in facilitating change. Presently, all the libraries have a regular library instruction programme and are also providing instruction about Web-based resources and services as part of this programme. But these programmes need to be supplemented with delivery of useful Web-based instructional tutorials in order to create a positive

environment for change. Libraries can foster a change-friendly environment by focusing their efforts on managing change, not technology (Cooper, 1998).

Communication is a very important factor in the management of change. One of the major problems in making change acceptable is due to poor communication within the organisation. The librarians must generate good communication practice. The libraries must use all forms of communication (Odini, 1990). Sometimes communication failures result because some forms of communication are neglected. Findings show that many of the surveyed libraries are yet to exploit full potential of the Web-based forms, which are effective tools for library-user interaction and communication. In fact, by looking at what other libraries have done, librarians can discover new ideas and learn how to develop and implement such Web-based services. Finally, in order to manage change well, Arabian Gulf libraries must continually develop effective training programmes and communication skills, and also make sustained efforts to enhance the quality of the Web-based services they offer to the users.

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