

May 22nd, 12:00 AM

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Carmen Franco Barroso, Leonor Fernández Alfaro, Ricardo Carrero Galfore, Ricardo Chamorro Rodríguez, and Rosario Gestido del Olmo, "Still navigating across the Atlantic: a view of a virtual reference service for academic libraries.." *Proceedings of the IATUL Conferences*. Paper 7.  
<https://docs.lib.purdue.edu/iatul/2006/papers/7>

# Still navigating across the Atlantic: a view of a Virtual Reference Service for Academic Libraries

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## Abstract

This paper presents the **Via Virtual Project**, a virtual reference service designed by the University of Cadiz as a strategy in response to the new educational model in Europe. It was launched in cooperation with the University of New Mexico General Library as a bilingual reference service in real time, available 24 hours a day.

The philosophy of the project will be described: the difference between virtual reference and a traditional reference service, the reorganisation of functions and activities, the acquisition of new skills by staff, the implementation of the software, and training etc.

At present, the University of Cadiz Library is working in conjunction with the University of Valparaiso Library.

**Keywords: Reference Services, Academic Library**

## 1 Introduction

Universities are in the process of implementing a new model of European Higher Education following the Bologna Declaration. University adaptation to social demands and the demand for quality and efficiency are causing an extension and diversification of educational opportunities for clients who are potentially at a distance from the physical space in which the university operates and who require life-long learning.

This new educational environment allows university libraries to play a strong leadership role in the development of this process. They become highly useful educational agents as they have the necessary resources for this task.

University libraries have added to the changing educational environment offering their users resources and services that provide study, research, and life-long learning opportunities.

Added to this is the fact that in the last few years the new technologies of information and communication have been fully implemented in libraries to facilitate the management of and access to information. Traditional reference services have benefited from this new trend and have taken advantage of the facilities offered by the Internet for dealing with user queries resulting in a proliferation of virtual reference services that libraries have named in different ways: Consult the Librarian, The Library responds, etc.

Wasik [7] defines them as follows: "Digital reference and AskA services are Internet-based question-and-answer services that connect users with experts in a variety of subject areas".

According to some authors [6], the reference services currently offered by libraries can be divided into: *Asynchronous Digital Reference*, for example, queries via electronic mail or web-based information request forms in which users send a query and the librarian responds to it later; and *Synchronous Digital Reference*, for example, chat or voice-based sessions in which the user and the librarian communicate in real time.

Whilst electronic mail has proved to be a useful tool for dealing with complex queries, reference services via chat have an added advantage in the speed of the response and the possibility of instructing the user how to retrieve certain information via the "co-browse" function.

However, despite the advantages and disadvantages of each, it is clear that synchronous and asynchronous reference systems complement each other to offer in each case a tool that facilitates the resolution of queries with the added advantage that such queries can be dealt with from any computer connected to the Internet.

An online reference service via a chat system is technology that is little used in Europe (except in a few university libraries). However, in the USA, it is a common service in all types of libraries. The importance of this type of service is made clear by the Virtual Reference Desk (VRD) project dedicated to the development of digital reference and Internet-based services. The project's 7th Annual Reference Conference was held in November 2005 in Burlingame, CA.

Youngok Choi [3] has studied the projects that include reference services in order to increase the value of collections and facilitate the use of information held. Choi analyses 60 projects in USA libraries in terms of the services offered. He arrives at the following conclusions: 75 % offer online reference services to users via email, 31% offer answer services via a web-based information request form, and only 3 projects (5%) offer a reference service in real time.

Some examples of libraries that use virtual reference services are:

New York Public Library  
Alliance Library Systems  
Arizona State University  
Baltimore County Public Library  
Central Michigan University  
Cleveland Public Library  
Denver Public Library  
Duke University  
Los Alamos National Laboratory  
Somerset County Council, UK

## 2 Background

In order to respond to the challenges imposed by the development of the new European Space for Higher Education and the need to focus its resources and services on users, the University of Cadiz Library has embarked on a process of strengthening its reference services via the use of librarian specialization and technology.

The University of Cadiz is divided between four campuses: Cadiz campus, Rio San Pedro campus (Puerto Real), Jerez campus and Algeciras campus. Apart from the Cadiz campus, where there are four library service points and reference services, the other campuses only have one service point.

The distance between the campuses has been the stimulus for finding ways to offer users an efficient service using the new technologies of information and communication. In addition, the increase in online courses has forced the

library to develop new strategies for providing library support for e-learning. One of these services is the Virtual Reference Service, called "Via Virtual".

This service, a pioneering development in Spain, consists of providing answers or information resources in real time and allows users to interact directly with librarians. In addition to the reference function, it acts as a tool for distance learning.

This project started in cooperation with the University of New Mexico General Library during 2002-2003. At the end of 2002 the possibility had emerged of implementing a project in collaboration with the University of New Mexico <http://www.unm.edu/libraries.html> to study possible areas of cooperation and collaboration on virtual and distance learning projects with the express participation of the libraries of both institutions.

Despite being on the other side of the Atlantic, the University of New Mexico (UNM), has a lot in common with the University of Cadiz: it is one of the American universities with the largest collection of material from Spain and Latin America. UNM has 150 teachers affiliated to the UNM Latin American and Iberian Institute and 450 students graduate every year from the DILARES (Division Of Iberian and Latin American Resources and Services) programme, a programme of studies about Latin America and Spain.

The University of Cadiz Library is currently working in conjunction with the University of Valparaiso Library, as the second stage of the project.

## 3 Phases of the Project

Once contact had been made between the universities and the project had been planned, the following points were considered:

- Evaluation and acquisition of the communications software
- Setting parameters
- Training the reference staff
- Development of procedures
- Launch and diffusion

### 3.1. Evaluation and acquisition of the communications software

From amongst the existing virtual information service software packages on the market, two products were considered and evaluated: *Convey System* by OCLC and *Virtual Reference Toolkit* by LSSI. Although they have similar characteristics, the LSSI software *Virtual Reference Toolkit* (VRT) was chosen (the software has recently been acquired by the company "Tutor.com").

The parameters that were taken into account when choosing one or other of the programs were as follows:

- Price
- Customer service
- Privacy
- Server maintenance
- Ease of use
- Statistics

### 3.2. Setting Parameters

To establish a virtual reference service, it is necessary to have software that allows the interconnection of two computers in real time. The basic equipment for this service is a computer connected to the Internet.

The program is stored on a server held by the software company. In order to access the program, the librarian must go to the Internet address of its organisation's VRT.

As part of the process of setting parameters the following points were taken into account:

- The URL of the page of the service which would be included on the library web page to allow direct user access and which LSSI would need to include in the program
- The introduction of standard messages and website addresses to speed up the conversation
- The definition of log-on names and passwords for librarians
- The definition of administrator passwords to facilitate the collection of statistical data, etc.

With regards to hardware and software requirements, the librarian requires Windows 98, NT or 2000 and at least Netscape 4.7 or 5.0. as well as a processor with a minimum of 200 MHz, 128 MB of RAM, and 16 MB free, and Internet Explorer 5.0. or above. The user requires a connection with a speed of at least 28.8 K although 56 K is more suitable, Internet Explorer or Netscape 4.0 or above and Windows 95 or above, in order to be able to use the more advanced characteristics such as co-browsing.

From the beginning of the project, the University of Cadiz only had one "site", one point of access for the librarian and one connection with the user. This means that the "chat" could only be established with one librarian at a time. However, this did not stop all the reference librarians participating given that the dynamic of the program allows one "call" to be transferred from one librarian to another so that queries can be dealt with in the most appropriate way for the client, by a specialist librarian..

Each reference librarian has a password to access the program and monitor users. Figure 1 shows the librarian interface with the available options:

- **Collaboration Toolbar.** This allows the librarian to activate or deactivate the co-browsing function, etc.
- **Action Toolbar.** This allows the librarian to send files to the user, transfer the query to another librarian, etc.
- **Chat or Conversation Area.** This displays the conversation between the user and the librarian.
- **Tabs Area.** This allows the librarian to send messages, web pages and Power Point presentations, etc.
- **Attendees Area.** This shows the user details and the status of the connection during the session.
- **Browser Area.** This shows web pages and files sent to the user.



Figure 1. Librarian Interface

At the beginning of the project, two working groups were formed of librarians from both universities and these carried out the necessary tests to the system once the parameters had been established.

### 3.3. Reference staff training

The initial staff for the project were recruited on a voluntary basis. As it was a pioneering project, the staff needed to be extremely motivated to guarantee its success.

However, as the project has developed, the rest of the reference librarians have been included.

LSSI carried out distance training over several days which was sufficient for librarians to learn how to handle the software. The initial training was undertaken by the librarians on the Jerez and Rio San Pedro (Puerto Real) campuses. During 2004, the service was extended to the service points on Cadiz campus and the training of staff was carried out by those librarians involved in the project from the start.

The librarian providing this service is no different in terms of skills from a traditional reference librarian. However, it must be highlighted that the fact that there is no client on the other side of enquiry desk implies different handling. In a direct query, the librarian interprets signs indirectly expressed by the client. When this face-to-face interaction does not exist, it is necessary to substitute it with other ways of expressing such information and to communicate with the user as quickly as possible. For example, there should not be too many pauses, the connection time should be appropriate to deal with the query.

A brief outline of what is required of librarians involved in a project like this is as follows:

- ability to adapt to change
- ability to handle information resources in their area both in terms of content and location and to manage information recovery programs
- ability to synthesise and simplify concepts
- ability to orientate and direct the user to the appropriate places to locate information
- commitment to being up-to-date in information resources

### 3.4. Procedures for the use of the service

#### Instructions for the Librarian.

The working group that formed part of the project produced a **Manual for Virtual Reference Librarians** which aimed to help the librarian respond to user queries. In many cases, the instructions in this document are to be applied to queries dealt with “live”. However, the special characteristics of online communication in this type of reference service mean that, in addition, some basic procedures should be established for dealing with the virtual query.

In a virtual reference service, the communication must be clear and fluid. Presentation is very important in electronic communication and although it allows the use of a more informal tone that formal writing, grammatical and

aesthetic rules must be observed. Every virtual references service has its own guidelines depending on the type of queries and responses involved, but the following aspects should be considered in online communication (Ekhaml 1996):

- Clear language.
- Correct grammar and spelling.
- Clear presentation.
- Accessibility/Ease of use

In addition to Ekhaml’s recommendations about virtual communication, the relationship established between the librarian and the user in the Chat must be taken into account.

Therefore, some **Recommendations for Communication via Chat** were produced for the librarians using the program. They are a series of guidelines that aim to ensure fluid and fruitful communication with the user. Amongst other things, the following points should be taken into account:

- Rather than using a long phrase or paragraph, it is better to divide it into several short phrases.
- Give the user a lot of feedback, occasionally asking questions.
- The reference librarian must tell the user if the connection is poor or slow.
- If the query is difficult to deal with, tell the user that the answer may take some time.
- Keep the user updated about what you are doing and the results you are obtaining
- Ask the user how much time they have. If they are in a hurry, or it seems appropriate, offer the possibility of a response by email.
- Ask the user if they need an immediate response or if they would like to learn how to locate the information themselves.

#### Instructions for the user

To facilitate the use of the service by users, the necessary information was collated and added to the library’s web page. It is divided into the following points:

##### a) What kind of questions can you ask?

- Questions about the library: its collections and services

- Questions about locating books and journal articles
- Questions about the use of the catalogue
- Questions about access to or the use of databases and electronic journals
- Information about a specific subject or area of knowledge
- Information about specific data

- comprehensive information on the web page
- information leaflets
- inclusion in the information sessions of the centres
- messages to potential users via distribution lists
- presentation of the project on all the university campuses

**b) How do you use it?**

Instructions are given on how to start and finish a session and how to formulate the query.

**c) Technical Problems**

Although the software does not have a trouble-shooting function, it is possible that something may occur that can be dealt with using the information contained on the page

**d) Security Guarantee**

This security guarantee explains the procedures followed by the virtual reference service to collect and use the information provided by the user with respect to the use of this service (name, address, email address...)

**3.5. Launch and Diffusion**

Once trials had been carried out between librarians and users from both universities, the service was launched. Initially, the libraries that participated were from two campuses, although later, the service was extended to include the rest of the university libraries.

The libraries that offered the service organised the hours of availability of the service so that in each shift one librarian dealt with incoming queries. If the query was related to a subject area covered by another library, the librarian could choose to transfer the query at that moment or respond later by email.

With regard to the collaboration between the universities, the University of Cadiz librarians could deal with users from the University of New Mexico out of UNM working hours and vice versa. This allowed the “opening times” of the service to be extended without the need to extend working hours.

**Diffusion**

When the service was launched, various activities were undertaken to disseminate information about the service to potential users:

**4 The Service in Operation**

In order to launch the Via Virtual service, both the synchronous and asynchronous reference and communication tools were placed on the library web page so that the user could contact the library by telephone, electronic mail and could obtain information about the most frequent queries received by the library.

Reference queries via telephone and email were usual in our traditional reference services, so what was added was communication via chat. Figure 2 shows the virtual reference service page:



Figure 2: Virtual reference service web page

An outline of how the service operates is as follows:

The service starts when a user connects via a link accessed via an icon (fig 3) on the main UCA Library web page.





Figure 3. Service Access Icon

The user must then complete an information request form to access the service and is then attended by a librarian able to respond to the query interactively and in real time.

The basis of the service is the online communication via chat and co-browsing involving both the user and the librarian. This co-browsing allows the user to be attended to online and interactively by the librarian who, at the same time, directs and orientates the user through the pages and resources that are of interest.

Throughout the session the user and the reference librarian are browsing and consulting the same screens. (Fig. 4&5).

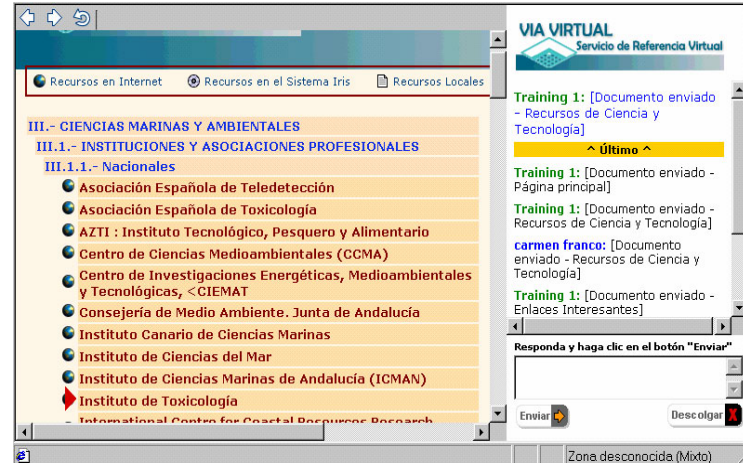


Figure 5. User's screen

The service is an innovative way of using online information, designed to deal with queries without requiring users to go to the libraries, thereby optimising the information available, facilitating the location of remote information and documentation and allowing the direct transfer of information, without barriers of time or space. The program allows the librarian to deal with user queries and at the same time provide documents of all types and in all formats (text files, Power Point presentations, digital images, etc...)

Once the session has finished, the whole session is saved automatically and sent to the user by email. The transcript [Fig. 6] of the session includes the conversation between the librarian and user and includes details of the web pages browsed and the files sent.

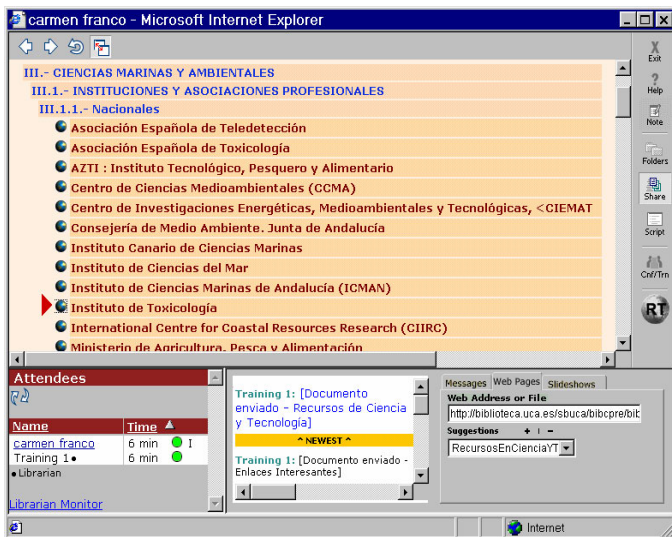


Figure 4. Librarian's screen

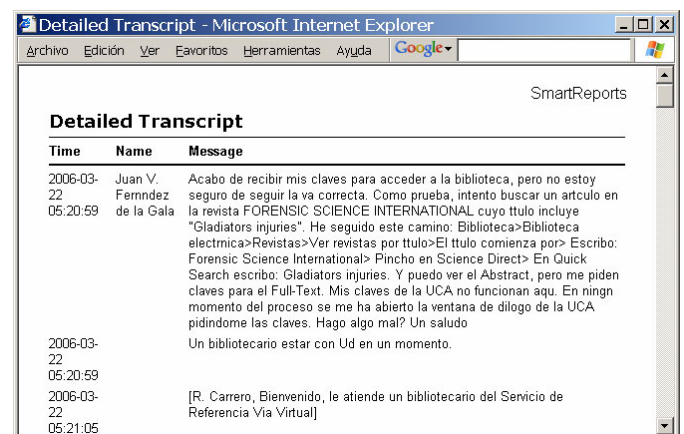


Figure 6. Transcript of the Session.

## 5 Statistics and Evaluation

The evaluation of the service can be carried out via the response process, evaluating both the final product, i.e. the

response to the user, as well as the whole process, i.e. the steps that have been taken to resolve the query. The librarian should constantly evaluate the responses sent in terms of the quality of information and the reference sources found, adherence to service policy, procedures and standards and to the recommendations about communication and presentation. When a session finishes, it is important that the librarian reviews both the content and the tone and language used.

In the virtual reference service, the response is most effective when the librarian analyses the query, locates and evaluates the relevant information to provide a response, registers the factual information and/or the references to the resources, offers the user help in handling the information, uses clear and appropriate presentation and language and evaluates the responses.

## Statistics

The virtual reference software allows very comprehensive statistical reports to be obtained, organised by librarian, by type of user, by query resolution, etc.

RepID: RCAR					
Call ID	End Date/Time	Call Res.	Cust ID	Hold Time	Service Time
call.000899.klin	2006-04-06 08:59:14	WCS-CLOS	munaq811@hotmail.com	00:03	04:00:05
call.000895.rish	2006-03-27 09:18:44	WCS-CLOS	XXX@XXX.XXX	00:10	07:21
call.000893.gnuw	2006-03-22 09:21:02	WCS-CLOS	valentin.fernandezdaga@alum.uca.es	00:06	54:18
call.000890.dmba	2006-03-07 07:05:35	Cerrada	pedro.fra@uca.es	00:05	15:32
call.000886.frcs	2006-02-20 10:59:45	WCS-CLOS	XXX@XXX.XXX	00:17	04:00:13
call.000883.lyrc	2006-02-06 07:15:27	Cerrada	bisp001@zahar.ugr.es	00:13	08:13
call.000881.hear	2006-01-26 05:16:33	Completada	slzcsd@aim@yahoo.com	00:04	29:56
call.000874.kaga	2006-01-23 09:12:22	WCS-CLOS	XXX@XXX.XXX	00:12	04:00:05
call.000875.mhsw	2006-01-23 05:22:20	Completada	lucero.fernando@barca.es	00:05	07:57
Average:				00:09	01:33:04
Total:	( 9 sesiones )			01:15	13:57:40
RepID: RCHA					
Call ID	End Date/Time	Call Res.	Cust ID	Hold Time	Service Time
call.000703.rhml	2006-04-07 09:08:47	WCS-CLOS	KL0808@gmx.de	-	03:44:42
call.000702.rhml	2006-04-07 09:08:47	WCS-CLOS	KL0000@gmx.de	-	01:04:44

The data that can be obtained about a specific time period is:

- the number of queries dealt with by each librarian
- the time and date of the query
- the time spent dealing with the query
- the number of queries dealt with
- the number of queries cancelled by the user
- the details of the user making the query
- transcript of the session that allows the analysis of the type of queries users have and the process of resolving them

## Evaluation of the Queries

Users have used the service to resolve queries of the following types:

- Queries about the Circulation Service: loans, renewals, reservations and their user details.
- Problems connecting to the resources. In this case, users have had some sort of access problem and want the librarian to solve it.
- Queries regarding information, book and reference resource searches
- Queries from other institutions interested in how the service works. As we have indicated, the service is a pioneering project in Spain and receives queries from library staff from other institutions to test the service.

With regards to the type of user that uses the service, they are largely students requiring advice and they use the chat to access it. Teaching staff and researchers use it less.

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