

# Online librarian – real time / real talk: an innovative collaboration between two university libraries

Janet Fletcher  
Manager, Reference and Research Advisory Services  
Macquarie University Library  
jfletche@library.mq.edu.au

Philippa Hair  
Reference Librarian  
Macquarie University Library  
phair@library.mq.edu.au

Jean McKay  
Manager Liaison Services  
Murdoch University Library  
J.McKay@murdoch.edu.au

***Abstract:***

*Collaboration has been a catchword within the library community for many years and now technological developments have made it possible to share staff and resources across time and distance. This paper describes how Macquarie University Library, NSW, and Murdoch University Library, WA, collaborated to produce an innovative online reference service for the academic year of 2003. It outlines the process of implementation between the libraries and outlines how the service uses Microsoft's NetMeeting to enable real-time conversations via voice-over IP (VoIP).*

# Introduction

Macquarie University Library (New South Wales) has provided a real-time virtual reference service since 2000. The service, using Microsoft's NetMeeting VoIP software, was introduced to provide off-campus students with a reference service equivalent to that on-campus. Though popular with those who used the service, the take-up was very low. Feedback from clients indicated that the main reason for not using the service was that it was not offered when most needed, namely during evenings and on weekends. Due to the success of Macquarie University Library's 'follow the sun' 24x7 IT help service that exploits time differences across the globe (Kolandaisamy and Keech, 2000), it was decided that the best approach to provide an extended hours virtual reference service was to collaborate with an institution in another time zone. As a result, Murdoch University Library (Western Australia) was approached. Murdoch staff agreed on the concept for it wanted to trial such a service and saw the advantage of learning from Macquarie's prior experience plus sharing costs of running and promoting the service. Furthermore, the libraries already had a good working relationship, as both are members of the Innovative Research Universities-Australia Group (colloquially named the 'Gumtree Unis'). With similarities in curricula and library resources, the concept of a shared virtual reference service became a viable option.

It was agreed that the online librarian service would run during the academic year of 2003 and would entail the following

- The service to be branded as **Online Librarian: real time / real talk**.
- Staff the service during semesters for 6 hours per day (Mon-Thurs, Sat-Sun) – 3 hours per day per institution:  
Monday-Thursday: 6pm-12 midnight (Macquarie) and 3pm-9pm (Murdoch)  
Saturday-Sunday: 2pm-8pm (Macquarie) and 11am-5pm (Murdoch).
- Use Microsoft's NetMeeting VoIP software to provide voice as well as text-chat, sharing of screens and a whiteboard facility.
- Share information between universities, primarily details about research databases.
- Share costs of marketing material.
- Share materials (eg. Reference desk procedure manuals) for training reference librarians.
- Keep similar quantitative and qualitative data for evaluation purposes.

## Literature Review

### Virtual reference services

Librarians have been quick to realise that their reference service required an online presence to remain relevant to their ever-increasing number of 'virtual' clients who may never set foot in their physical library. As a result, over the last few years setting up a virtual reference service has become de rigeur for many libraries, particularly university and public libraries. How libraries have implemented these services has been reported widely in the literature and Bernie Sloan's (2003) extensive bibliography on the topic is a good starting point. It is not the aim of this paper to provide a comprehensive overview of these reports, however, it is pertinent to highlight some points.

Libraries usually first offer a virtual reference service using asynchronous technology, such as email/web forms (Bao, 2003). The convenience, ubiquitousness and (relative) anonymity of email means the service was, and remains, popular with clients though its success does depend on timeliness and completeness of responses from library staff (Abels, 1996). It has also been argued that face-to-face or telephone interviews are more appropriate for resolving complex problems because social context cues decrease with the more impersonal method of email (Hahn, 1997). Developments in communication tools, however, have provided libraries with new opportunities to improve their online services and thus virtual reference services are now including real-time communication, usually via a web-based text-chat facility (Foley, 2002, Payne and Perrott, 2003).

Synchronous communication has the advantages of email but most importantly, has immediacy of feedback thus allowing a client 'to request this assistance at the point of need, helping the library move towards an anytime, anywhere service' (Moyo, 2002, p23). Still relatively new to libraries, reports about such services tend to describe how the service was implemented and the ensuing advantages and disadvantages. A major consideration was what software to use, and though selection criteria varied, most libraries chose software due to: ease of use, no plug-ins required, simple interface, ability to archive transcripts, extensive usage statistics, canned messages facility, able to facilitate referrals, management of incoming/outgoing calls, cost, ensured security and privacy, and most importantly, provision for collaborative browsing and 'pushing' pages to clients (Broughton, 2001, Foley, 2002, Moyo, 2002, Payne and Perrott, 2003). Commonly used free chat software, such as AOL Messenger and NetMeeting, were rejected as they lacked many of the preferred features, particularly as they require clients to download software (Moyo, 2002).

Operation and management of the service are also mentioned in the reports. As with any library service, the main issues are training and staffing. For most libraries training of staff seemed a straightforward exercise, an indicator that the software was simple to organise and manipulate. However, staffing the service remains an issue as providing real-time services is labour intensive. Libraries have dealt with this by making the service part of the overall reference service with staff rostered as standard ref-work hours, or staff volunteering/directed to work additional hours and/or other people recruited to help out (Foley, 2002). Furthermore, virtual reference is usually provided for limited hours during the week with an email service providing back-up during downtime.

## **Collaborative initiatives**

In Ruppel and Fagan's (2002) survey of what users thought of real-time chat, they found that a major disadvantage of the service was that usually it was available for limited hours and users were unsure of the times or wanted to use the service when it was unavailable. As a result, libraries have been forming consortia in order to increase hours without increasing their staffing budgets. Collaborative ventures also help to improve efficiency by utilising expertise and resources of libraries and librarians (Penka, 2003). A successful example of collaboration is QuestionPoint, a service provided by the Library of Congress, OCLC and contributing libraries around the world (OCLC, 2003). In Australia, national, state and territory libraries have joined force to create the service, AskNow! (Council of Australian State Libraries, 2003). The National Library of New Zealand and National Library Board of Singapore have also joined this initiative. Another is the Metropolitan Cooperative Library System which has 31 member libraries in California and provides a 24/7 reference service to its clients (Flagg, 2001). In a review about virtual reference, the Association of Southeastern

Research Libraries (2002) found that though most of their member libraries were not participating in a consortium, a number did agree that a consortium would be useful for sharing of staff and subject expertise. To be successful, libraries needed to have agreed philosophies of reference service and have similar curricula. Lack of knowledge of local policies, procedures and collection, and access to licensed databases were considered disadvantages

## **Desktop conferencing and VoIP**

It is clear that libraries offering real-time virtual reference are limiting their service to text-chat and are not extending their service to video or audio. However, Sloan (1998) argues that a video reference service comes much closer to emulating the face-to-face reference interview and suggests that the ideal virtual reference service may be a combination of a limited video service with on-demand email. In one sociological study, voice communication was found to have a more powerful effect than text-chat on people's tendency to trust the information being given to them by the party (Jensen et al., 2000). Similarly, Payne and Perrott (2003) found that librarians did not think that text-chat was an efficient way to handle long and complex reference enquiries, particularly when synchronisation was lost and it was easier to continue the interview via email or the telephone. Despite the obvious advantage of being able to speak and/or see the 'virtual' client, libraries have been reluctant to introduce these features, as it requires clients to download software and the technology is still deemed to be unreliable and clunky. It is interesting to note, however, that voice and video are now recognised as superior to standard chat for virtual reference:

When the transmission of voice over the Internet gets as good as it is over the telephone, Voice over IP (VoIP) can be expected to be preferred over chat. And when it becomes commonplace that you and the caller can see each other virtual reference will have all the advantages of an in-library service, at which point traffic can be expected to soar. However, reliable transmission of voice and video via the Internet is slow in coming. Desirable as talking to and seeing each other are, at present very few virtual reference software providers offer these capabilities. (Lipow, 2003, p36)

Despite Lipow's pessimism about quality, a scan of general literature about VoIP (sometimes called Internet telephony) indicates that the technology is becoming increasingly popular as a reliable alternative to PBX. This is due to the extensive cost savings that companies (particularly in the US) can make and it is estimated 'that VoIP could account for over 10% of all voice calls in the US by 2004' (Varshney et al., 2002, p89). Similarly, more than a million people have signed up for a VoIP phone service in Japan and in India cyber cafes are becoming de facto cheap call centres (Prince, 2002). Peden and Young (2001) suggest that VoIP may be used as a complement to home phone lines as the current phone system was never designed to cope with the demand for multiple lines in home use. Furthermore new protocols in Internet telephony (e.g. Session Initiation Protocol [SIP] and wireless VoIP [WvoIP]) are developing which allow integration with other Internet services, such as email, web, voice mail, instant message, multi-party conference, mobile phone and multimedia collaboration (Ho et al., 2001). Such developments will assist in making Internet audio and video communication more commonplace and create opportunities for libraries to enhance their own virtual services.

# Murdoch/Macquarie experience

## Features of service

Macquarie University Library has long been an advocate of VoIP, and in discussions with Murdoch University Library about the collaborative virtual reference service, it was agreed to continue to offer this feature. Acknowledging the disadvantages of using NetMeeting, (i.e. clients have to set up the software, not compatible with Macs, it is difficult coping with additional callers, and no process for managing calls such as keeping statistics), the advantage of being able to talk to clients during the reference interview was deemed to be the most essential element in offering a real-time reference service. Offering voice meant librarians could provide an excellent teaching and learning environment, and communication between the client and librarian would be more natural and friendly than via text-chat. NetMeeting was chosen as it is now bundled in Microsoft's standard software and thus is easily available to home users. It also includes a text-chat facility so clients who do not want to use voice are still able to use the service.

## How the service using NetMeeting works

A client goes to the Online Librarian webpage for his/her own institution, and clicks on the live link – the date and time details have been put on each web page with the 'connect now' link only made live when the service is available. First time users click on the NetMeeting wizard to activate the software by following a few simple and quick steps. The process takes only a minute or two to complete. The 'connect now' link automatically changes over IP addresses at the designated turnover time and the client is seamlessly connected to a librarian from either institution. (For those requiring support, the Online Librarian web page has a *technical difficulties* link that provides further information. Additional support information has been added throughout the year based on feedback from clients and from online librarians.) The client chooses between chat and voice and the librarian answering the call responds in the mode selected by the caller. Where the client is slow to respond the librarian pastes a welcome message into the chat screen to deter the client from disconnecting.

The important first step in the reference interview is that the Online Librarian asks the client to identify at which institution she or he is studying. This will determine which databases can be used in responding to the client's questions; Macquarie students are only shown databases subscribed to by Macquarie University Library and similarly Murdoch students are shown databases subscribed to by their institution. The appropriate institution's web page is always used as the starting point for answering questions which then provides links to permitted databases and relevant login information. Depending on the question asked, the Online Librarian may select a database from the set available to the client, and demonstrate its use by 'pushing' a view of their screen to the caller. NetMeeting users need only one phone line.

Though NetMeeting allows for the client to take control of the desktop, it was agreed that librarians would not relinquish control. This helps in keeping the transaction focussed. When the service is not available, information on the web pages directs clients to use their own library's email service. The result of this has been a substantial increase in email enquiries at both institutions.

## Promotion

The voice feature was heavily promoted at both the universities, branding the virtual reference service, **Online librarian: real time / real talk**. Colourful postcards (posted to distance education students), bookmarks (inserted into books posted to off-campus students) and posters were produced with a graphic showing a man with a headset 'talking' to a computer and with the text 'Talk online' emphasised. The cost of producing these marketing tools was shared between the two universities. Online Librarian was promoted at information literacy classes, at the reference desk, in conversations between liaison librarians and their clients, on postgraduate students' email lists, and written up in newsletters available in print and on our websites.

## Collaboration

Using NetMeeting and indeed the experience of offering a real-time virtual reference service was new to Murdoch University Library. Thus the first stage of collaboration between the two libraries was for the librarians at Macquarie to share their expertise with their Murdoch colleagues. This required discussion via teleconferences, using a discussion list for daily reports and setting-up practice times during the period prior to semester. These practice times also gave time for librarians to learn about each other's services, facilities and resources, including local information (eg. process for students to log-on to services, local collections, policies on access to reserve material). Compilations of heavily used information from our websites were exchanged.

Determining when the service was to be offered was difficult as semester times and public holidays between the universities differed. Eventually a compromise was reached for start and end dates of each semester. It was also agreed that the service would not be available on any public holiday, even if the holiday was gazetted for only one of the states. Both libraries wanted the service available in the afternoons and evenings. Due to the time-zone difference, Macquarie received the advantage of the later hours. At both libraries, staff volunteered to participate in the service. No staff worked after hours (i.e. when their library was closed). For each library, there was a small increase in budget to cover the rostered hours.

The success of any collaborative venture lies mainly with communication. Throughout the year, the online librarians have kept up-to-date with problems and successes via daily reports. Not all reports are equally serious, as the following examples demonstrate (both reports are by Murdoch Online Librarians).

### Report 1:

I received one call today. I couldn't use VoIP but I could hear everything from the other end (a baby crying and then Dad trying to calm him/her down). I don't know why I couldn't communicate using VoIP because the sound was crystal clear. Maybe they didn't have their speakers on?

## Report 2:

As it is the end of semester I began to reflect on Virtual Reference - here's what came to me - apologies to Edgar Allen Poe.

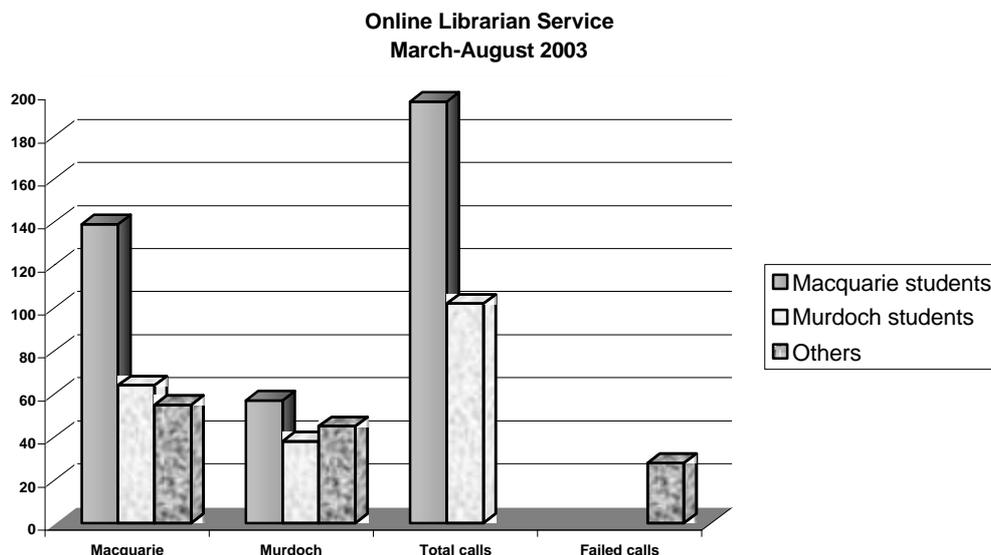
Once upon a Virtual Reference dreary, while I pondered, weak and weary,  
Over many a quaint and curious database of forgotten lore,  
While I nodded nearly singing, suddenly there came a ringing,  
As of some one gently bringing, bringing questions to my virtual door.  
"Tis some student," I muttered, ringing at my NetMeeting door-  
"Only this and nothing more."

Keeping track of requests is maintained at each library. As both universities cover similar subject matter, the experienced online librarians can answer most requests from either institution. The daily reports have proven to be very useful in following up with issues, discussing solutions to problems, passing on the few requests that could not be answered at the time of call, and sharing the expertise (and humour) of staff. Staff from each library have also had the opportunity to visit each other's institution and this has helped build personal relationships and gain an understanding of the different university environment.

## Evaluation

### General overview

So, how successful has the venture been? Compared with Macquarie University Library's figures from the previous year, the number of calls has tripled. Table 1 provides an overall summary between March-August 2003 (the service does not operate on Fridays nor did it during the semester breaks: 11-13 April, 19 June-28 July):



**Table 1**

Despite the increase in calls from Macquarie's perspective and many favourable comments from those who do use it, take-up of the service still remains relatively low. This could imply that clients don't need assistance from the Library any more and are finding their own resources via well-designed library web pages, databases and Internet search engines. However, as enquiries via email and telephone at each of the library's reference departments continue to rise, as do visits to the reference desk, it would appear that our clients still want help, especially related to electronic resources. It is likely that software problems deter many users from trying the service, perhaps especially those who are off-campus and lack ready access to IT support.

No formal surveys of clients have been taken. However, at the end of each session clients are asked what they thought of the service. One Online Librarian's daily report provides some insight into user acceptance of the service after the student received hands-on guidance from a reference librarian on how to talk with the Online Librarian:

#### Student feedback

- This would be really helpful working at home.
- It was good she explained everything that she did while she did it.
- I would definitely use voice rather than chat.
- I would definitely use it again soon.
- Gave it a 9 out of 10.
- Had not used before as seemed too technical.

#### Issue identified

- Scrolling on computer screen sometimes affected sound and screen image quality.

## Using VoIP

Of the total number of calls, 25 % used VoIP. Further research is required to determine why clients who use Online Librarian choose not to use the voice facility. However, anecdotal evidence indicates that it is most likely due to clients not wanting to launch an unknown program, not having appropriate hardware, having the hardware but not knowing how to use it, preferring text-chat, failing to connect and/or poor quality VoIP which deters them from trying again. However, even if clients don't attempt to speak, they may be able to listen, as one Online Librarian comments:

One thing that I like about VoIP is that even if clients don't have a microphone (which a lot seem not to), 9 out of 10 will probably have speakers which means that we can happily describe what we are doing on the screen without the users having to focus on two places (i.e. words and screen). The fact that they need to ask their question in chat is not such a problem as they can normally do this in a sentence or two - it is the librarian's explanation that generally is wordy and sometimes complicated.

## Future

The library staff at Murdoch and Macquarie are keen to continue their joint online reference service. We recognise that this involves addressing the most obvious problem of poor response from our target markets.

To raise awareness of the service, we plan intensive marketing campaigns, including:

- Moving the physical location of Online Librarian into the public arena, perhaps to the reference desk.
- Providing the software, headsets and microphones on public PCs in the libraries.
- Demonstrating the service at all library training sessions.
- Encouraging academic staff to use the service and promote it to students.
- Creating links to Online Librarian from all university web pages.
- Highlighting the service on each library's homepage.
- Including promotional postcards and bookmarks in packages sent to off-campus students.

We acknowledge that it would be far better for our clients if we could offer much longer hours and the two libraries are investigating ways to achieve this. Where NetMeeting software was dependent on operating from a single IP address, its successor Windows Messenger can be run from varying IP addresses. This has an impact on staffing as librarians could provide the service from their own desks, integrating it with their other tasks. Staff could even work from home in the evenings enabling a greater spread of hours at little additional staffing cost. Another option to extend the hours of operation is considering seeking additional partners to share staffing and marketing costs. Some of the other members of the Innovative Research Universities - Australia Group could become involved. To extend the evening hours for Western Australian clients, interest in virtual reference from colleagues in Africa may be followed up.

It is also important to constantly monitor developments in synchronous help services, including the experiences of commercial organisations. For example, we are still unsure how we would manage calls if the service became too successful and it would be useful to investigate what others have done to manage a high demand. Perhaps we should be providing services that are available via SMS and Multimedia Messaging Service rather than concentrating on computer-based applications.

We are currently investigating the potential offered by Windows Messenger, which is the successor to NetMeeting, and is based on Session Initiation Protocol (SIP). Windows MSN Messenger integrates voice, video and instant messaging and importantly offers 'presence management' which could help overcome some of the problems with the front-end management of callers experienced with NetMeeting (Hochmuth, 2002). Microsoft has also just launched its Microsoft Office Real-Time Communications server 2003 and companies such as Siemens and Cisco have plans for SIP-based VoIP servers by the end of the year. With increasing exposure to real time communications software, uptake of a real time virtual reference service could rise, paralleling email reference, where use by our clients increased over 60% between 2002 and 2003.

## **Conclusion**

Use of real-time communication software is ever increasing - there are few school leavers who would be unfamiliar with MSN Messenger or similar. The computer desktop is becoming the work and study place for our clients, for this is where the clients want to interact with their library. Technological advances, collaborative services and better-funded marketing will address the issues which have arisen. Regardless of the technology, a virtual reference service is essential to cater to the needs of the virtual clients of the contemporary academic library.

## References

- Abels, E. G. (1996), 'The e-mail reference interview', *RQ*, vol. 35, no 3, pp.345-358.
- Association of Southeastern Research Libraries. (2002). *ASERL virtual reference membership survey complete results*, [Online], Available from: <<http://www.aserl.org/projects/vref/surveyssumcomplete.htm>> [11 October 2003]
- Bao, X. (2003), 'A study of web-based interactive reference services via academic library home pages', *Reference & User Services Quarterly*, vol 42, no 3, pp. 250-256.
- Broughton, K. (2001), 'Our experiment in online, real-time reference', *Computers in Libraries*, vol 21, no. 4, pp. 27-31.
- Council of Australian State Libraries (2003), *AskNow!: online answers Australia-wide*, [Online], Available from: <<http://www.asknow.gov.au>> [11 October 2003]
- Flagg, G. (2001), 'Libraries launch 24/7 e-reference', *American Libraries*, vol. 32, no. 7, pp. 16-17.
- Foley, M. (2002), 'Instant messaging reference in an academic library: a case study', *College & Research Libraries*, vol. 63, no. 1, pp. 36-45.
- Hahn, K. (January 1997), *An investigation of an e-mail-based help service (College of Library and Information Services, University of Maryland. CLIS Technical Report No. 97-03)*, [Online], Available from: <<http://www.clis.umd.edu/research/reports/tr97/03/9703.html>> [9 October 2003]
- Ho, J., Hu, J. and Steenkiste, P. (2001) In *Proceedings of the ninth ACM international conference on Multimedia*, ACM Press, Ottawa, Canada, pp. 421-430.
- Hochmuth, P. (2002), 'SIP passes taste test', *Network World*, vol. 19, no. 7, p. 61.
- Jensen, C., Farnham, S. D., Drucker, S. M. and Kollock, P. (2000), 'The effect of communication modality on cooperation in online environments', *CHI Letters*, vol. 2, no. 1, pp. 470-477.
- Kolandaisamy, M. and Keech, M. (2000), 'Moving towards 24-hour support' in *VALA Biennial Conference and Exhibition (10th). Books and Bytes : Technologies for the Hybrid Library*, Victorian Association for Library Automation Inc, Melbourne, [Online], Available from: <[http://www.vala.org.au/vala2000/2000pdf/Kol\\_Kee.PDF](http://www.vala.org.au/vala2000/2000pdf/Kol_Kee.PDF)> [9 October 2003].
- Lipow, A. G. (2003) *The Virtual Reference Librarian's Handbook*, Neal-Schuman, New York.
- Moyo, L. M. (2002), 'Reference anytime anywhere: towards virtual reference services at Penn State', *The Electronic Library*, vol. 20, no. 1, pp. 22-28.
- OCLC. (2003), *QuestionPoint: collaborative reference service*, [Online], OCLC Online Computer Library Center, Available from: <<http://www.questionpoint.org>> [11 October 2003].
- Payne, G. and Perrott, M. (2003), 'Librarians on call: an instant messaging enquiry service for Open University distance learners', *Library and Information Research*, vol. 27, no. 85, pp. 11-21.
- Peden, M. and Young, G. (2001), 'From voice-band modems to DSL technologies', *International Journal of Network Management*, vol. 11, pp. 265-276.
- Penka, J. *The Technological Challenges of Digital Reference*, [Online], Available from: <<http://www.dlib.org/dlib/february03/penka/02penka.html>> [11 October 2003].
- Prince, M. (3 July, 2002), 'Cable calls could challenge telcos', *Australian Financial Review, IT Supplement*, Sydney, pp. 3-4.
- Ruppel, M. and Fagan, J. C. (2002), 'Instant messaging reference: users' evaluation of library chat', *Reference Services Review*, vol. 30, no. 3, pp. 183-197.

- Sloan, B. (1998), 'Service perspectives for the digital library remote reference services', *Library Trends*, vol. 47, no. 1, pp. 117-143.
- Sloan, B. (August 27, 2003), *Digital Reference Services Bibliography*, [Online], Available from: <<http://alexia.lis.uiuc.edu/~b-sloan/digiref.html>> [9 October 2003].
- Varshney, U., Snow, A., McGivern, M. and Howard, C. (2002), 'Voice Over IP', *Communications of the ACM*, vol. 45, no. 1, pp. 89-96.