VoIP in Reference, User Services, and Instruction

Abstract

VoIP tools are applied in numerous public services contexts. This chapter explores web voice and video implementations from reference to instruction and beyond.

The last chapter considered VoIP in workplace productivity and professional development; this chapter focuses on its implementations in public and user services. As I mentioned in chapter 1, my personal "peak of inflated expectations" centered on Web calling as an extension of digital reference. Among the many applications of Web calling I describe in this chapter, call-in and kiosk voice and video reference models seem to be the least successful. What emerges instead is a pattern in which targeted applications of Web calling and conferencing provide cost-effective solutions local to communication, outreach, and learning needs.

VoIP Reference

Skype a Librarian

VoIP is being used to extend virtual reference, but often with mixed results. At Ohio University in 2007, my Reference and Instruction Department Technology Team colleagues (Chad Boeninger, Chris Guder, & Tim Smith at the time) and I began piloting a Skype a Librarian call-in service. Still in operation, this service is staffed 24/5 and long weekend hours from the Alden Library Learning Commons service desk (figure 14). Anticipating that Skype would become the preferred communication method of many faculty, international students, and graduate students, we promoted it as a way to use chat, voice, or video for general and in-depth research help.

Despite the continued success of OU's IM reference program, Skype a Librarian remains moderately used (one to two questions a week). According to Chad, getting a question is still "sort of like spotting a unicorn," but there has been a modest uptick in recent months as students increasingly use Skype for their own communication purposes.[1] For this reason and because it takes so little maintenance (Skype logs in automatically when the computer is started), OU will continue to offer Skype a Librarian for the foreseeable future.

A handful of academic libraries of varying sizes provide similar Skype a Librarian services, including University of North Carolina, Greensboro and Taylor University. Through interviews with program coordinators I located the following common characteristics, all confirmed by our experience at OU:

- Usage is nonexistent to modest and dependent on steady promotion.
- Participants initially tended to be faculty and international students, but more groups appear to be adopting Skype over time.
- Services can be difficult to staff and integrate with other virtual and in-person reference offerings.
- Users prefer to converse via text chat rather than initiate a voice or video interaction.
- Technical difficulties were regularly reported.
- The service seemed to be highly valued by the few who initiated interactions, who often tended to become repeat Skype chat users.

Interviewees consistently expressed hope for the future of Skype reference, but contingent on VoIP's

popularization and local promotion efforts. "I still think Skype holds promise as a communications mechanism for pushing our reference services through means that our users may find most convenient, especially to those students most removed from our main campus," said Paul Roberts, director of patron services at Centennial Library at Southern Seminary. He also noted, however, "The jury is still out as to whether it actually fills a need for us."[2] More targeted applications of Skype, such as scheduled virtual research consultations, may produce a more scalable service model than an open call-in approach.
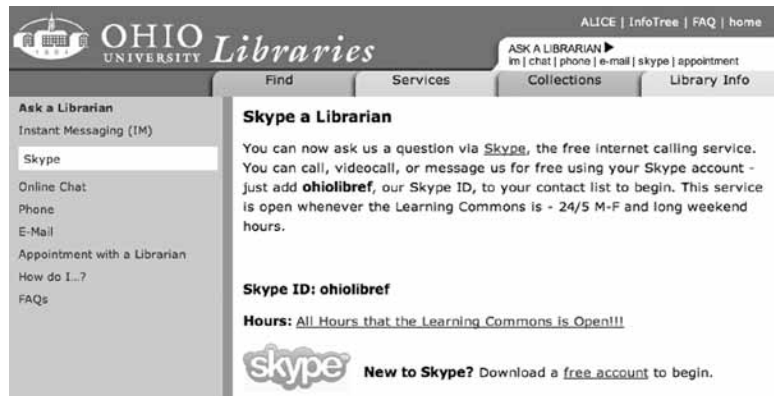

Figure 14
Skype a Librarian at Ohio University.

Integrating VoIP in Chat

Some large-scale chat software providers such as ChatStat and LivePerson have enabled "click to call" functionality, which could provide voice or video on demand in chat reference interactions. Another option is using external VoIP tools to achieve the same result. I located one consortial service that had recently experimented with software VoIP in this capacity: askON/Ondemande, a nonprofit chat reference provider serving about fifty public and university libraries in Ontario. Jan Dawson, project coordinator and virtual reference librarian for askON, describes the Skype pilot they operated between November 2009 and April 2010:

> We didn't originally intend on using Skype. We had always intended on piloting [LivePerson's] "talk by PC" capabilities and were led to believe that our account had VoIP. Once we started planning, we were rudely awakened to the fact that we indeed did not have VoIP functionality as indicated. We had to quickly research an alternative and the obvious choice was Skype due to its popularity (via Oprah-ization!) and its ability to work on most operating systems. Our motivation to pilot VoIP on our service was multifaceted . . . as well as being a progression to the ultimate goal of providing the choice of face to face reference service at askON, we also saw adding voice as an opportunity for those with poor typing ability (perhaps due to disability, etc.) or also when . . . typed instruction becomes cumbersome [for askON staff]. Our visitors didn't use Skype, but there were several limitations to the pilot project such as asking them to jump from the chat platform to another voice platform . . . so I feel as though had things been done differently, it's possible we would have been more successful . . .[3]

AskON CALL staffers invited patrons to use Skype during a chat session if voice was requested, if typing became too unwieldy, or if the staffer was simply interested in trying a different approach. Very few patrons elected to use Skype, with an overwhelming majority either uninterested or unable for other reasons.

Jen shared her results from an exit study tracking askON CALL use as well as patron and librarian experiences with the pilot. There were few successful Skype interactions; most staffers felt that it was difficult to navigate the external application from the LivePerson interface and that the benefit of adding voice was disproportionately low when compared to the difficulty of setting it up.[4] Reasons for low interest varied across user populations, from institutional Skype bans to a perceived lack of convenience. Dawson notes that most of these difficulties were created by the unforeseen necessity using an external voice application rather than LivePerson's unavailable built-in VoIP, and that fully 25 percent of participating staff were reluctant to use Skype either out of trepidation or because they "liked the moment of pause chat brings in comparison to the immediacy of voice."[5]

IP Phones and Skype Handsets

For traditional telephone reference via IP phone, network or power outages can cause significant service interruptions. According to Margaret Rodermond of the University of Lethbridge Library, "we have had [IP phones] for about two years. As soon as there is a problem with the Internet or any problems with any of the University's computer servers, we are totally down. We cannot even phone out for assistance, if needed."[6] Some libraries have considered using software VoIP rather than IP phones to field calls at public service points. I corresponded with with Carrie Phillips, a librarian from Bluffton University Libraries who posted to web4lib asking if any institutions had replaced worn-out reference desk phones with Skype WiFi handsets (she got no replies, by the way). Bluffton decided against Skype phones in favor of a cellular plan because "it was

a matter of new technology that we didn't have time to properly vet for feasibility. The technology that we'd been using . . . was dying a quick death and we needed something to replace it fairly quickly. We might have gone the Skype phone route if we'd had time to do a trial will still maintaining the old phone."[7] I found many instances of this dilemma—VoIP was often considered when communication issues occurred, but rejected if adequate vetting time was lacking or if a more familiar technology presented itself.

Video Kiosks

In addition to direct reference, software VoIP tools such as Skype and TokBox can be configured to create stand-alone information kiosks that incorporate click-to-call voice, video, and text options via touchscreen or keyboard and mouse. As far as I can determine, the Ohio University kiosk remains a proof-of-concept project that has not been replicated. I communicated with two academic libraries that considered creating similar projects—Temple University and San Francisco State University, both of whom decided to pursue other options. While the OU kiosk functioned for close to two years and went through a number of reconfigurations and interface redesigns, it was never successful enough to justify the maintenance it took to keep it operational. In the next two chapters I take on the kiosk project as a case study of the library innovation cycle, exploring its successes and failures as well as the Temple and SFSU scenarios in more depth.

International Services

The utility of Skype and other Web conferencing or calling tools for international communication cannot be overstated, and can help libraries serve user populations with cross-border contact needs. Many of professional Skype users are researchers and teachers for whom distance communication and rich cultural exchanges are necessary, yet prohibitively costly. Among Skype's most well-known educational applications are language learning—the Mixxer, a free network hosted by Dickinson College—facilitates free group and individual language exchanges.

The Mixxer
www.language-exchanges.org

International and Study-Abroad Services

A growing movement to recognize the "international-ization" of higher education has focused attention on distance use of home library resources and the difficulty navigating unfamiliar research cultures.[8] In a more promising iteration of the VoIP reference model, Skype and other clients can become a cost-effective outreach, information, help, and instruction tool to any audience that depends on cross-border communication, such as students studying abroad and international students at local campuses.

Andy Burkhardt and Sarah Cohen at Champlain College Library provided reference and instruction to study-abroad students via Skype, targeting a group of 30 students at the university's Dublin study program.[9] They experienced initial promotional difficulties but were able to conduct several successful teaching and research interactions, and had unexpected success using Skype to establish relationships with administration. Taking additional steps to increase student awareness, they will continue to offer this Skype program as a standard feature of the Champlain/Dublin study-abroad program.

Public Skype Stations

Library-provided Web calling and video conferencing station can help individuals without high-speed Internet at home connect with friends, relatives, and colleagues abroad. In Alabama, a Gates Foundation–funded and governor-sponsored initiative, Connecting Families, has equipped 100 public libraries with Skype video for military families to contact relatives stationed overseas (figure 15).[10]

In addition to this initiative, I located several public libraries promoting video conferencing stations (usually a PC or Mac with a webcam and headphones or a Skype handheld phone). A successful example is the Tigard Public Library in Oregon: In operation since 2009, TPL's Skype Lab allows patrons to make free video calls and connect to landlines for standard SkypeOut charges. Featured on the Share Skype Blog, reader services manager Len Anderson describes the program: "We currently have eight computers with Skype software downloaded and usable. We have, to date, purchased four Skype phones . . . depending on demand, we may expand to have all 16 computers in the Technology Room and also order additional Skype phones."[11] Program manager Ning Wang reported better-than-anticipated adoption of the service following a Skype education program, adding that this created unexpected technology literacy benefits:

> We had no idea how the community would respond to this new service when we started. There were very few patrons taking advantage of it initially. We realized that most of the people knew little or nothing about Skype at the time so we increased publicity and started to offer a Skype class, making the library as an education center as our main focus. Our first class

was a huge success. The lab was completely full. There were military families, people who had families or relatives overseas and those who traveled frequently in the class. The demand was out there. Education and promotion was the key to draw them in. We had more patrons initiating voice and video Skype calls after classes. We added more Skype hours and had staff at hand assisting users to make calls or show them how to establish a Skype account on patron's own computers. . . . This is a permanent service we offer. We believe it's more than we expected from the aspect of educating and introducing new ideas and technology to the community.[12]

Virtual Participation and Community Building

VoIP is being used to create successful online versions of traditional library services that focus on meaningful interpersonal communication, such as author visits, children's story time, instruction, and book clubs. For patrons unable to visit a library location for reasons of frugality, convenience, or physical access barriers, VoIP apps facilitate virtual visits, distance learning, and other contact-intensive services.

Virtual Author Visits

A small but growing number of public and school media librarians now use voice and video over IP to conduct virtual author visits. The Skype an Author Network, sponsored by media specialist Sarah Chauncey and YA author Mona Kirby, is a wiki-based community of young adult and children's book authors available for scheduled

video Skype visits free for a 10–15-minute introduction, or for modest hourly fees. According to Chauncey, "If you only have the option of in-person meetings, many schools are limited to one visit per year. . . . Hourly Skype visits range from $100 to $400 dollars—significantly less than an in-person visit."[13] When asked about student reaction to the virtual visits, Chauncey notes, "The younger students . . . are more attentive than when a person is standing in the room with them. The idea of seeing and hearing someone who lives in another state is pretty cool."

> *Skype an Author Network*
> http://skypeanauthor.wetpaint.com

Media specialist Wendy Stephens reported that two Skype author visits she conducted with her high school students in New Market, Alabama, were quite successful. "They tend to work extremely well," she said, "better than the virtual field trips we have conducted using much more expensive IVC equipment."[14] In 2007, she arranged for one group to meet with *It Takes Time to Fall* author Margaret Dean (figure 16), and in late 2009 *Violet* author and readergirlz.com creator Melissa Walker spoke with another:

> I used an inexpensive webcam and digital microphone with Skype [for the first visit]. Margaret Dean and I had arranged a call beforehand to check the connectivity . . . we didn't have any technical issues at all. I used a digital projector to throw the image from a laptop onto a screen. The visit was about forty-five minutes, and was later noted by several students as one of the most memorable things they did in high school. The Melissa Walker visit had an even better result. I was a big fan of readergirlz website . . . and I thought she would really engage my students. The chat was really fun, with Melissa quizzing the girls about their favorite books and pastimes. And it actually resulted in connections deeper than I ever would have anticipated. That evening, Melissa let me know several of the girls had been in touch via email. One student began sitting in on readergirlz chats, started her own blog, and has begun a memoir since the chat. The fact that it began with the author's largesse in allowing us a few minutes to

Figure 15
Connecting Families program.

Hope, Hype, and VoIP: Riding the Library Technology Cycle   **Char Booth**

Figure 16
Margaret Dean Skype visit to New Buckhorn High School.

talk about their work and the writing and publishing process really creates an altogether new relationship between author and reader.[15]

Distance Learning and Instruction

Similar to the VoIP-supported professional learning strategies in Chapter 3, many library educators rely on voice and video applications like DimDim and Elluminate to provide online instruction. Avril Cunningham, USC Library Instruction Coordinator, used the Web conferencing platform Macromedia Breeze (now Adobe Connect) to illustrate how chat environments such as Meebo, Skype, and now Google Wave can support distance or just-in-time teaching needs, such as in instances when it is difficult to schedule an in-class session (figure 17).[16]

I have used Dimdim to reach students as far away as Ghana, and find that after testing and triaging to prevent echo and so forth, viable participatory learning experiences are quite possible. Teaching and learning in a virtual environment takes some getting used to, and instructors often report difficulty reorienting their teaching style. That said, as Web conferencing tools improve and voice and video widgets begin to integrate with Moodle and other course management systems, synchronous instruction will become more common in virtual and "blended" (hybrid in-person and online) environments. VoIP will soon influence content delivery and participation in

mobile learning—the *2010 Horizon Report* predicts that as handheld features and speeds improve, m-learning with voice and video will become more viable.[17]

Content Creation and Archiving

Many VoIP tools offer recording or voicemail features, making them useful for inexpensive DIY content creation. This shoestring approach to audio and video archiving is useful for preserving meetings and events and creating fixed or mobile recording stations. I recently met with a planning team at UC Berkeley interested in recording student testimonials for a campaign to renovate the undergraduate library: we brainstormed several web calling configurations for a makeshift video booth. I also located a successful "audio harvesting" project at Bowling Green State University Library in Ohio. The library is using a Google Voice widget to help create a "digital scrapbook" to support the campus's Centennial celebration. Users can access the widget and record audio memories by calling into a dedicated Google Voice number or sending a call to themselves through the project site (figure 18).

Gwen Evans, coordinator of library information and emerging technologies at BGSU, described the digital voice archive project:

We had a mobile "ingestion" booth at a recent event, and realized that as it got nosier, our cheapo

Figure 17
Teaching with Meebo, TokBox, and Skype.

Figure 18
Centennial Memories voice widget.

microphone wasn't going to be able to cut out the background noise. My staff member suggested that we use a Google Voice number and let people "phone in" their story as voicemail, since phones did a really good job of cutting ambient noise. Not only can we harvest stories at events where we are scheduled to appear, we are going to put the Google Voice widget on the site and let anyone with a story "phone it in." This is so much easier than setting up an audio booth or users having to know how to set up a microphone on their computer, saving the file, uploading the file, yada yada—all they have to do is phone the number, and Google and we do the rest. Google Voice even lets you record a custom greeting for each widget. Added bonus is that people can text a story in via SMS to Google Voice (one line at a time), ala cell phone novels in Japan.[18]

In an interview with the BGSU student paper, Evans noted that "this isn't really what Google phone is intended for, but we are really pushing the envelope with it . . . it's really just a phone service but we are able to upload these voice mails to the site and it works great."[19] Early coverage of the project resulted in two "genuine, unsolicited" contributions prior to its official rollout, both of which can be accessed at the project website.[20]

BGSU Centennial Memories
http://memories.bgsu.edu

Conclusion

VoIP enhances the ability of geographically dispersed libraries and librarians to connect across distances, increasingly important in a time of digital transition and resource consolidation. Contrary to my original predictions of the transformational power of Web voice and video for information services, their value seems to be

in digitally bridging distances and creating rich personal experiences. Author visits and job interviews lend themselves more naturally to Web video than reference interactions, which are often text-preferred and do not necessarily require face-to-face communication. Another characteristic of VoIP's adoption is its context specificity; local programs differ from one another significantly. As Tigard's Skype Lab and the BGSU voice widget demonstrate, the most successful insightfully address immediate issues and involve active user engagement.

Notes

1. Chad Boeninger, Skype Chat interview by the author, Jan. 19, 2010.
2. Paul Roberts, e-mail message to the author, March 24, 2010.
3. Jan Dawson, e-mail message to the author, March 30, 2010.
4. Jan Dawson, "askON CALL CiL Presentation," April 18, 2010, http://jandawson.net/2010/04/18/askon-call-cil-presentation (accessed May 25th, 2010).
5. Dawson, e-mail message.
6. Margaret Rodermond, e-mail message to the author, March 30, 2010.
7. Carrie Phillips, e-mail message to the author, March 31, 2010.
8. Ellen Hammond, "Internationalization in Higher Education and Global Access in a Digital Age," *Library Management* 30, no. 1–2 (2009): 88–98.
9. Andy Burkhardt and Sarah Faye Cohen, "Even an Ocean Away: Developing Skype-Based Reference for Students Studying Abroad," *Reference Services Review* 38, no. 2 (2010), www.emeraldinsight.com/Insight/viewContentItem.do;jsessionid=EFE7B13CBFB89543D028AA45DF9085E4?contentType=Article&contentId=1846666 (accessed May 25th, 2010).
10. State of Alabama Press Office, "Governor Riley Launches Connecting Families Initiative," Dec. 9, 2008, www.governorpress.alabama.gov/pr/pr-2008-12-09-01-webcams

-photo.asp (accessed May 25th, 2010).

11. Howard Wolinsky, "Oregon Library Patrons Call the World on Skype," April 7, 2009, http://share.skype.com/sites/us/2009/04/post_10.html (accessed January 25th, 2010). Page now discontinued.

12. Len Anderson and Ning Wang, e-mail message to the author, March 23, 2010.

13. Sarah Chauncey, e-mail message to the author, April 2, 2010.

14. Wendy Stephens, e-mail message to the author, Jan. 28, 2010.

15. Ibid.

16. Avril Cunningham, e-mail message to the author, March 24, 2010.

17. Larry Johnson, Alan Levine, Rachel S. Smith, and S. Stone, *The 2010 Horizon Report* (Austin, TX: The New Media Consortium, 2010), http://wp.nmc.org/horizon2010 (accessed May 25th, 2010).

18. Gwen Evans, Gmail chat message to author, Feb. 19, 2010.

19. Gwen Evans, quoted in Ryan Bort, "Students Can Upload Memories to Digital Scrapbook to Celebrate Centennial," *BG News,* Feb. 9, 2010, http://bgnews.com/campus/students-can-upload-memories-to-digital-scrapbook-to-celebrate-centennial (accessed May 25th, 2010).

20. Judy Gross Tanenbaum, "Smiles at Prout Hall, 1988 Judy Gross Tanenbaum," Centennial Memories, Item 6009, (accessed May 25th, 2010); Dana Nemeth, "Professor Jack Nachbar in the Popular Culture Department—Popular Literature Class," Centennial Memories, Item 5943, http://memories.bgsu.edu/cm10/items/show/5943 (accessed May 25th, 2010).