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UNIVERSITY LIBRARIES

Virtual Information Services Task Force

Report

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Executive Summary

Virtual information and reference services, be they synchronous or asynchronous, are offered by libraries of all kinds. They have been adopted and adapted to suit the needs of many institutions of higher education. The University of Maryland Libraries have been offering such services for more than ten years. Very little has changed in how the service is provided since 2003, when UMD became a member of the Maryland AskUsNow! cooperative.

The Virtual Information Services Task Force set about examining the effectiveness of our current virtual reference model, considering both our staff providers and our users. We looked at whether our current staffing model is appropriate for our staff and at the same time, how it might be adjusted to deliver better service to our users. We conducted a survey of library staff, an analysis of the statistics available on UMD virtual reference activities, an environmental scan of the virtual reference activities of Committee on Institutional Cooperation libraries, an analysis of popular chat software products, and a review of the literature (see Appendix F).

We found that the QuestionPoint software, which is currently used to provide chat, does not meet the technical or statistics gathering requirements of the Libraries. The Maryland AskUsNow! program, while providing the benefit of 24/7 chat coverage for UMD users, does not do so at a consistently high level of quality. Furthermore, the bulk of questions coming from the AskUsNow! cooperative are from non-UMD users and there is general discontent among UMD chat providers about this. Finally, there is general underreporting of virtual information transactions due to the decentralized nature of various virtual information activities.

We make ten general recommendations from our findings:
1. Shift the provision of chat service for UMD users away from the Maryland AskUsNow! cooperative and towards UMD librarians and staff.
2. Better integrate chat with other information services and statistics collection.
3. Reevaluate categories for data collection in LibAnswers and RefAnalytics.
4. Increase buy-in from Public Services librarians and staff.
5. Recruit volunteers to provide virtual information services.
6. Solicit guidance from the UMD Libraries' administration about where the provision of information services (either virtual or at a service point) fits into the overall vision of Public Services and the job descriptions of its librarians and staff.
7. Account for participation burn out by implementing a six-month service term.
8. Coordination of virtual information services, training, and assessment should be done by a dedicated staff person.
9. Provide training for virtual information services on an on-going basis throughout the year.
10. Create a robust marketing campaign.

We propose two possible models for offering virtual reference:

1. New & Improved 24/7 Coverage for UMD Users
Combine QuestionPoint's 24/7 coverage with another chat product for UMD users only. Staff the alternate service during regular library hours, excluding Late Night and weekends.

2. A UMD Service for UMD Users Only
Eliminate QuestionPoint and use another chat product for UMD users only. This model has two variants.
    1. Chat occurs only during regular library hours, excluding Late Night.
    2. Chat occurs whenever McKeldin Library is open, including Late Night.

Introduction

The Virtual Information Services Task Force was charged with examining the UMD Libraries'[1] existing virtual reference services and recommending possible scenarios to enhance and expand these services (see Appendix A for the full charge). Effectiveness of existing services was measured quantitatively, by analyzing usage statistics of current services, and qualitatively, by surveying staff providing these services. Recommendations for the future were based on the effectiveness of current services, exploration of virtual information services provided by other institutions, and assessment of existing products. These recommendations cover suggestions for staffing, hours of operation, service platform, and potential partnerships.

Background

The UMD Libraries began offering chat reference services with Human Click software[2]. In 2003 they joined Maryland AskUsNow![3] with the goal to offer extended hours of chat service, and they have participated in this program since then. Participation in this program requires a set number of hours of chat coverage by UMD librarians, the appointment of an AskUsNow! liaison, use of QuestionPoint[4] chat software, and a standardized branded link to AskUsNow! on the Libraries' homepage.[5] In return, the Maryland AskUsNow! cooperative guarantees 24/7 coverage of UMD chat, a discount on the cost of the QuestionPoint software, and training sessions in the use of this software.

Between 2006 and 2012, some UMD librarians used an alternative chat platform called Meebo[6], which could be inserted as an HTML widget into a website. This widget was a direct connection between the website users, who were mainly from UMD, and librarians. Meebo is no longer an active service, and while it did not have the robustness of a full-fledged chat program, it revealed a desire on the part of some librarians to connect more directly with users and circumvent the QuestionPoint chat environment.

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[1] "The UMD Libraries" is used throughout this report for consistency. In actuality, we are referring only to the UMD Libraries located on the College Park campus. The Priddy Library at Shady Grove has instituted a separate virtual information services system; for more information, refer to the Environmental Scan section on page 11.

[2] For more information about Human Click software, visit http://www.liveperson.com/liveengage/engagement/chat .

[3] For more information about Maryland AskUsNow! service, visit http://www.askusnow.info/

[4] More information about QuestionPoint software can be found at http://www.questionpoint.org/

[5] The UMD Libraries' homepage does not display a standardized branded link to AskUsNow! Neither do many other Maryland college and university libraries participating in the program. Possible influences on this include institutional branding rules and either purposeful or accidental de-emphasis of the service during website construction.

[6] Meebo is now part of Google. For more information, visit http://www.meebo.com/

Current Services Offered

Public Services librarians, graduate assistants, and non-faculty staff provide chat services through AskUsNow! Monday through Thursday, from 11 am until 3 pm. The number of hours each branch is expected to contribute to chat shifts is calculated using a weighted formula that takes into account the number of full-time librarians working at each branch and the number of evening and weekend shifts on a reference desk they work. On balance, this formula assigns a larger number of chat shifts to the smaller branch libraries because of the greater number of desk shifts expected of McKeldin librarians. This formula does not take into account how many people are actually staffing chat shifts, as it does not include graduate assistants and staff. Chat is not staffed by UMD employees during semester breaks.

As of the writing of this report, the Libraries have just begun using Microsoft Lync[7] enterprise instant messaging software. This software has been configured for use only by library employees. Lync is best utilized for internal communication and collaboration, in support of external virtual information services. Lync does not provide the single entry point necessary for users and cannot be configured to do so. It also does not integrate at all with our transaction tracking software, nor does it have its own tracking method.

It is now possible for LibGuides creators who also have a LibAnswers account to activate a chat widget based on Springshare's LibChat product.[8] This is a recent development and may not be permanent depending on our adoption of LibChat. At least one librarian is experimenting with using this feature, but more investigation needs to be done.

Staff Survey Analysis

A survey consisting of 23 questions was administered in January 2014 to all library staff, which yielded 48 responses, of which 41 were complete (see Appendix B for detailed results). The survey results presented enough information to confirm the task force's initial expectations and revealed staff expectations of the Libraries' virtual service and training needs.

The UMD Libraries invest a lot of time and resources into developing, maintaining, and improving the communication channels with the campus community. Providing virtual information services requires a significant investment of time and funds to ensure a service of high quality. The task force members examined the current staffing models for both chat and email reference.

Chat service via QuestionPoint

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[7] For more information on Microsoft Lync, visit http://office.microsoft.com/en-us/lync/

[8] For a full description of all Spingshare products, visit http://www.springshare.com/

Sixty-two percent (62%) of the respondents do not provide chat; 55% of the total respondents have provided chat in the past but do not currently do so. The responses suggest that library staff do not currently provide chat for various reasons: reference is not part of their job description; they experienced frustration with the software; other duties bring more professional satisfaction; etc. From the survey results, it is evident that library staff, committed to virtual reference, are answering referrals from chat (60%).

Since the implementation of the chat service, it has been debated whether this service should be provided 24/7 or not. Although 24/7 coverage is attractive because of its convenience, statistics show a low usage from UMD patrons during late evening/night/early morning hours (11 pm-9 am). Chat operators' opinions as to the best hours of service are divided: 25% support providing chat during the same hours as the Libraries including Late Night; 23% believe it should be the same hours as the Libraries **not** including Late Night (23%); 18% support providing chat from 11 am-4 pm (Monday-Thursday); and only 14% recommend that chat be provided 24/7.

According to 56% of the respondents, our UMD community should be served by our own library staff and not by libraries outside of UMD. The survey results indicated that the pool of chat operators should be drawn from the following three major groups: librarians (91%), paraprofessionals (76%), and iSchool students (73%). Respondents also suggested that other staff members—including graduate students, the LibAnswers triage group, and anyone who answers a library phone or enjoys chat—could provide the service after an appropriate training.

Regarding the staffing model, 73% of respondents indicated that there is no need to hire a dedicated person to staff the chat service only. However, it is recommended to have a dedicated staff person to coordinate the service among other duties. Responses to the question about concurrent staffing were varied with 39% recommending one person per chat shift and 32% recommending two per chat shift; 29% responded "Other," indicating that the model should be developed depending on the chat frequencies and the number of chat operators participating in the service. If this service is sufficiently promoted, then the staffing level needs to be adjusted accordingly to the incoming chat requests. As librarians are busy with other job related projects and responsibilities, 32% of respondents indicated that each operator should have only two chat hours per week; 19% suggested three or more hours per week. Other responses from the remaining 42% indicated that the staffing model should be developed by taking into consideration librarians' job descriptions and the total number of people available to staff the service.

Participants in the survey were asked about whether they keep statistics of their reference transactions or not. Almost half of the respondents (49%) do not keep statistics, whereas 36% use RefAnalytics, and 3% use MS Excel or MS Word. Other answers include QuestionPoint data, single file, and calendar or email folder with the majority requiring a manual input for recording these data on a regular basis.

It occurred in several instances in the comments section of the survey that robust marketing of the chat service should be made. There is a consensus across all respondents that chat service should be visible on all pages on the Library's web site on the same location, including home page, contact us page, LibGuides, databases and journals. One respondent suggested a floating "widget" should be offered on all public library workstations, so users can access chat from any webpage or program.

When asked about their training needs, 78% of individuals who participated in the survey stated that they would be willing to receive training on effective techniques for chat reference with fewer respondents interested in having training on policies and procedures (53%) and on QuestionPoint software (56%). The majority of respondents recommended QuestionPoint be discontinued in other sections of the survey, which may be an indication that respondents are willing to receive training on software, no matter which one will be used. LibraryH3lp[9] was suggested in several places in the comments section of the survey.

Several respondents shared what they liked about the current chat service via QuestionPoint:
- Availability and being provided 24/7
- Easy to use
- Being able to multitask while monitoring the chat service
- Promptness of service
- Schedule; time commitment of librarians is minimal
- Learning about the navigation and common characteristics of library websites

Among the things chat operators do not like about the existing service are the following (in order of frequency from highest to lowest):
- Answering questions from the general public and from other institutions participating in the AskUsNow! collaborative
- Technically outdated software
- Poor quality of service from non-UMD librarians
- Lack of detailed statistics
- Little usage from UMD patrons
- Too many referrals from monitoring two systems
- Lack of marketing
- No professional satisfaction from providing this service
- No dedicated person to ensure schedule
- Not all librarians participate in the chat service

Finally, the respondents provided recommendations for the future of UMD Libraries' chat service:
- Discontinue QuestionPoint
- Streamline statistics with Springshare

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[9] For more information about LibraryH3lp, visit http://libraryh3lp.com/

- Robust marketing is needed; make chat more visible and accessible to users
- Scheduling to be open to everyone who enjoys chat; discontinue current practice of assigning quotas to subject teams

Email service via LibAnswers

Participants were asked several questions about their LibAnswers participation and opinion on how the LibAnswers triage group should be functioning.

Eighty-five (85%) of the participants responded that they have not been in the triage group. Sixty-seven (67%) of the participants were answering questions referred from LibAnswers. Responses indicate a slight preference that the triage of email questions be performed by a rotation of staff (37% of the respondents) as compared to a standing group of staff (26%) and a dedicated staff person (16%). It was further advised that triage should be performed by a standing group of dedicated and enthusiastic volunteers that rotates every couple of years.

There was no clear preference on the service model for the triage group. Participants were divided as to whether the activities of the triage group should consist of mainly referrals (37%) or answers (21%). However, the answers in the comments section of this question (42%) revealed that the triage group should continue to do a combination of both: answer general questions and refer more difficult questions to appropriate subject or departmental reflectors.

As with the chat service, the need for training is similar: 77% of the respondents are willing to learn more about effective techniques for providing email reference, followed by 57% willing to master the LibAnswers software, and 46% willing to learn about policies and procedures.

In the open-ended survey questions, participants shared what they like and do not like about the LibAnswers software, and suggested several ideas for future planning. The majority of participants stated that LibAnswers is easy to use, has robust statistics, and is easily customizable. The open-ended answers also revealed that:
- Commitment of librarians is low
- Clearer policies/procedures and training are needed for:
  - Librarians answering referrals (e.g. it's not clear if a question is being answered)
  - Triage group referring the questions
- Syncing between Outlook and LibAnswers is desired
- Merging chat and email questions into one system is desired
- Subject reflectors should be added/made more visible for referring questions
- Quality control/maintenance of the Knowledge Base is a concern
- 24/7 coverage is desired

Analysis of Statistics

There are three sources of statistics for the UMD Libraries' virtual information services: QuestionPoint, LibAnswers, and RefAnalytics. Data for each service in 2013 was examined from each source individually; time-stamped data for chat and email reference was also examined together to better understand when questions from our users are being asked online. The raw data for this analysis can be found in Appendix C (Tables 1-20).

Question Point Chat Statistics

The only statistics provided by QuestionPoint are chat sessions requested; chat sessions accepted; and concurrent chats (see Appendix C, Tables 1-3). Chat sessions requested represent the chat sessions requested by UMD users (indicating local demand for chat service), while chat sessions accepted represent chat sessions provided by UMD librarians (indicating actual staff activity). It is unclear if concurrent chats represent concurrent demand by UMD users or concurrent activity by UMD librarians.

During the 2013 Fall and Spring semesters the greatest demand for chat service by UMD users is from 10am-5pm. There is a moderate demand from 9am-10am and 5pm-11pm (which falls within regular library hours) and little to no demand from 11pm-9am (which is roughly equivalent to Late Night Study hours). The decreased volume for June, July, and August suggest that a reduced schedule for summer terms could be considered. UMD librarians are scheduled to staff chat from 11am-3pm, but the QuestionPoint statistics show that some librarians also have answered chats from 9-11am and 3-7 pm. While at times there have been several concurrent requests, the average number of concurrent requests is only one, indicating that having one person to staff chat at a time may be sufficient (at least for most times of the day).

Looking at the statistics for 2013, it becomes apparent that UMD Librarians spend a great deal of time and effort answering questions from the general public. UMD librarians are most active during the 12-1pm hour when they monitor the general queue (24/7 Academic Cooperative and MD Cooperative) that is not restricted to academic users only. In 2013 they answered 120 questions from this queue during 12-1pm, which is more than double the average for the three hours spent in the academic queue (57 questions). Furthermore, the UMD librarian level of activity during this hour actually exceeds the UMD user demand for that same hour.

The limited statistics gained from QuestionPoint are insufficient for determining local use of the chat service. Apart from knowing which queue UMD is assigned to cover, it is unclear from the statistics to whom UMD librarians are providing chat, and no information is provided about the demographics of UMD users utilizing chat. QuestionPoint also provides no information about the types of questions asked; accordingly, the data does not help determine what expertise is needed for staffing and training. For this information, one must look to RefAnalytics.

RefAnalytics Chat Statistics

Seven chat operators also recorded their chat transactions in RefAnalytics during 2013 (see Appendix C, Tables 4-8).[10] The overall chats recorded reflect about one third of the chats from QuestionPoint, and if one considers this sample representative, conclusions can be drawn about the types of questions being asked and the users who ask questions via chat. It should be noted, however, that since user type is selected by the chat operator (rather than by the user), this information may not always be accurate.

RefAnalytics data suggest that in 2013 UMD chat operators assisted UMD undergraduate students the most (30%), followed closely by the general public (24%) and USMAI students (21%). Overall, UMD librarians provided chat to more users who are not affiliated with UMD (53%) than those who are (47%). UMD faculty (5%) and grad students (9%) either rarely used chat or did not identify themselves as such when posing questions. Chat questions were mostly for research assistance (62% overall—basic 42% and complex 20%); followed by directional questions/referrals (20%) and service/policy questions (14%). Very few questions related to technology or printing/copying/scanning, were asked via chat (5% combined).

Email Reference Using LibAnswers Knowledge Base

Some of the most accurate data for the UMD Libraries' virtual information services comes from the LibAnswers Knowledge Base (see Appendix C: Tables 9-13). Questions asked through LibAnswers are date- and time-stamped from when users asked them. In 2013, most questions were asked between 10am-5pm (70.8%); fewer questions were asked between 7am-10am and 6pm-1am (25.5%); and extremely few questions were asked between 1am-7am (3.7%). Most questions were asked on weekdays (86%), with Mondays having the most of any day (20%). Questions steadily decreased during the week, with significantly fewer questions (14%) being asked on the weekend.

Response time is recorded if the question is answered from within the LibAnswers system. The most frequent response time (20%) was 0-10 minutes, while 53% of questions were answered within 12 hours and 71% of questions were answered in 24 hours or less. However, the average response time was 2 days and 7 hours, which suggests that some extreme outliers may have adversely affected the average response time. There is room for improvement here.

Additionally, users are asked to self-identify when submitting the question, removing room for error or assumptions made by the chat operator. In 2013 graduate students (22%) and faculty (20%) used the LibAnswers service the most; undergraduate students represented only 14% of the questioners. 44% were either unaffiliated with UMD (22%) or gave no response (22%). Making this field required should prevent a lack of responses in the future.

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[10] At least one of these seven chat operators indicated that she did not regularly record chat transactions in RefAnalytics; it is possible that others among the seven did the same.

Email Reference Recorded in RefAnalytics

The RefAnalytics data in Appendix C, Tables 14-19 represent all email questions recorded by UMD librarians and staff as well as questions submitted through LibAnswers (provided that the answerer chose to complete the RefAnalytics portion when answering and selected 'email' as the question format). Training staff to perform this action is important because content on the question types will not be provided otherwise, apart from popular words in Query Spy.[11] As a part of RefAnalytics training, library-wide best practices about how to record transactions (such as whether to backdate questions) should be addressed. It is also worth noting that in 2013 only 37% of subject liaisons recorded their email reference in RefAnalytics, suggesting that more training and/or methods to promote centralized collection of statistics are needed.

In RefAnalytics questions are time-stamped as to when the librarian/staff member records the transaction unless he/she backdates to when the question was asked. Accordingly, the timing of questions and daily distribution is less clear compared to the LibAnswers and QuestionPoint data. Most email questions (89%) were recorded between 8am-5pm, which is the typical work schedule for Public Services Department (PSD) librarians and staff. While relatively few email questions were recorded during evenings/late night study (10%) and weekends (1%), it is possible that a greater percentage of email questions were being asked during these times but were answered and recorded during normal business hours.

Patron type is recorded by the librarian/staff member and as such may not always be accurate. In 2013, 78% of email questions were asked by UMD users; only 22% were from non-UMD users. Most email questions were from faculty/staff (30.9%), followed by undergraduates (25.2%) and graduate students (19.7%). Very few questions were received from alumni (1.6%), community borrowers (0.6%), and USMAI users (0.5%). Most email questions were service/policy related (42%), followed by complex research assistance (31%) and basic research assistance (18%). Comparatively few email questions were directional/referral (5%) or related to technology (3%).

Observations from the Statistics

First and foremost, our current knowledge of virtual information services at UMD is incomplete. QuestionPoint does not provide adequate statistics to inform staffing and training of chat operators, and only a small number of chat operators are recording their chats in RefAnalytics. To improve this situation, either a tool that provides robust data collection should be chosen to replace QuestionPoint, or chat training should include a tutorial on recording transactions

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[11] Query Spy is real-time query analysis that allows the UMD Libraries to view what users are asking and searching for in the LibAnswers Knowledge Base. The popular words in query spy provide partial insight into the content of the questions being asked (e.g. eBook, request, or ILL).

within RefAnalytics. It would be ideal if our chat service could have users self-identify like LibAnswers, so that accurate statistics about who is asking questions could be gathered.

Our knowledge of email reference is also incomplete since not all PSD librarians and staff are recording their email questions in RefAnalytics. Possible ideas for how the UMD Libraries can encourage library staff to use the system include:
- Rotate members onto the LibAnswers triage group to expand familiarity with the system
- Incorporate data collection as part of the annual review or PRD process
- Incorporate RefAnalytics into the library-wide customer service training
- Ensure all supervisors are trained so that they can promote data collection within their units/departments

It is also suggested that categories for data collection in LibAnswers and RefAnalytics should be reevaluated in consultation with the Coordinator for Assessment and Planning and the person(s) responsible for coordinating virtual information services. Several fields are redundant, while others (e.g. the Read Scale) are being ignored by the majority of RefAnalytics operators. Wherever possible, fields (e.g. user type) should be consistently used across systems and services. Revising the RefAnalytics categories and layout so that recording questions is as easy as possible may also help with efforts to expand the collection of statistics for virtual and in-person reference.

Existing data show that email and chat are complimentary services that meet different information needs for different types of users. However, the content is similar enough that the two services could be provided by the same operators. Combining LibAnswers and chat coverage into a single assigned shift could be effective as hourly demand for both services is similar, yet neither is so great individually as to warrant simultaneous coverage. Doing so may also help improve the response time for LibAnswers as desired.

Since the majority of chat questions relate to research assistance, it seems logical to draw chat operators primarily from Research Services librarians, staff, and student assistants). However, interested staff from other areas of PSD or the UMD Libraries and/or iSchool students could also provide this service, provided that adequate training is given. Given the disparity of service/policy questions between chat and email reference, Access Services staff seem to be in greater need for answering email questions and chat referrals, though they too could provide live chat coverage if interested or needed.

Combined chat demand from UMD users and the LibAnswers Knowledge Base activity shows 10am-5pm to be the hours of highest virtual information-seeking activity (see Appendix C, Table 20). Demand from 9am-10am and 6pm-11pm is less but still consistent. Together, these hours of activity mirror the hours that McKeldin Library is open to the public. A different chat schedule and closed hours for the LibAnswers Knowledge Base for the academic year and summer terms may be warranted, based on the noticeable difference in activity levels (e.g. no evening coverage needed). While chat statistics do not reflect days of the week, the LibAnswers statistics show the weekend to be significantly less busy in terms of questions from

users. Should it not be feasible for the UMD Libraries to provide chat 24/7 and the Libraries decide to leave the Maryland AskUsNow! cooperative, feeding the after-hours chat questions into the LibAnswers Knowledge Base during late night and weekends is a possible alternative.

Environmental Scan and CIC Survey Results

In order to improve the use of virtual reference at the University of Maryland, the task force looked to other institutions for input on how virtual reference was implemented. Questions about virtual reference centered on how institutions had chosen and implemented their services. Before input from outside institutions was sought, a survey was distributed to faculty and staff at UMD for internal input on virtual reference practices in the Libraries (see Appendix B for questionnaire and results). Information on various institutions' websites pertaining to virtual reference was also consulted.

After receiving input from the UMD community, a short questionnaire was distributed to the research heads of the 15 CIC universities (see Appendix D). This form was also sent to the Universities at Shady Grove for their input. Of the 16 institutions surveyed, only three universities responded. The questions asked in the questionnaire focused on four main areas in implementing and providing virtual reference services: software used, staffing, partnerships, and marketing. Finally, general advice from the CIC research heads was also solicited.

Services Used

- **Ohio State University** (OSU) reported that they use LibChat (SpringShare). This software was chosen because it was easy to implement, allows multiple people to monitor chats, and worked with corresponding statistics software. OSU reported that they had problems initially with the software dropping chats, but that the system works well now that this problem has been solved.
- **University of Wisconsin-Madison** uses the LibraryH3lp software for their virtual reference. In the survey, UW-Madison reported that the software works very well, was affordable, and allows for many monitors of chats. The system was also easy to learn and has a clean look.
- **Shady Grove** began using the LibChat service provided by SpringShare in Fall of 2013. They chose this service because it was easy to set up, use, and integrate into their existing services.

Staffing

- Staffing of **OSU**'s virtual reference is done by library staff, as well as graduate and undergraduate student workers. When determining who would staff the system, OSU looked at time requirements of operators, the historical atmosphere of the institution in terms of reference, and the flexibility of staff when it came to reference questions.

- **UW-Madison** reported that their virtual reference services is provided by librarians, library staff, interns, graduate students from their Library School, and Library School practicum students. At UW-Madison, virtual reference is seen as an extension of regular reference services, so no distinctions were made when determining who would provide chat services.
- At **Shady Grove**, librarians and library staff currently provide virtual reference service, but they are also considering allowing student workers to provide this service as well. Librarians and library staff were chosen to provide this service because it allowed virtual reference to be offered for the maximum amount of time.

Most libraries did not provide 24/7 coverage of their virtual reference services. For example, OSU only provides coverage from 9am-9pm. UW-Madison provides services at different hours depending on day of the week and academic term. Staff at Shady Grove are logged into LibChat during their entire shift.

Partnerships

- While the state of Ohio has a reference cooperative, **OSU** is not a member.
- **UW-Madison** is not a member of a reference cooperative, but said that since the number of branch libraries on their campus, their virtual reference programs worked like a cooperative.
- **Shady Grove** is not part of any reference cooperative.

Marketing

- Both **OSU** and **UW-Madison** reported that they promote their virtual reference services on the library website, through social media, with print materials, and during orientation. Both also added that the services are endorsed during instruction sessions.
- **Shady Grove** promotes its virtual reference service on the library's website, through social media, with print materials, and during student orientations.

General Advice from CIC institutions

- **OSU** suggested good, comprehensive training for staff using chat. They also mentioned that members of their community think that librarians should also provide reference services online. Limiting the number of concurrent chats was also suggested, since staff can become overwhelmed serving many people at once.
- **UW-Madison** encountered a couple problems when implementing their chat software, including receiving spam messages and problems with staffing from smaller libraries, which they solved by forwarding these chats to their general chat service. UW-Madison suggested the use of simple system that can easily be learned by chat providers. They also suggested training staff to use a screencast program, such as Jing.

- **Shady Grove** mentions that integrating their virtual reference service into their university webpage was a difficult part of instituting their chat service due to design principles.

For the universities that did not respond to the questionnaire, their chat services were used to find out more about their virtual reference services. These questions mainly focused on what software is used at the institution, the hours that virtual reference services are provided, and who answers questions. Some institutions provided additional information about their services as well. The findings of these chats are highlighted below.

Services Used
- LibChat (SpringShare) is used by University of Iowa and Pennsylvania State University, along with Ohio State University and Shady Grove (4).
- LibraryH3lp is used by University of Illinois at Urbana-Champaign, University of Michigan, Indiana University, University of Chicago, and Northwestern University, along with University of Wisconsin-Madison (6).
- QuestionPoint is used by University of Minnesota, Michigan State University, University of Nebraska—Lincoln, and Purdue University (4).
- RefChatter from Altarama was only used by Rutgers University (1).

Hours
- University of Minnesota, Michigan State University, University of Nebraska-Lincoln, and Purdue University provide 24/7 coverage with their participation in the QuestionPoint reference cooperative (4).
- Purdue University, which is part of the QuestionPoint reference cooperative, lists the hours that its librarians and staff are available online even though after-hours staff coverage is provided by the cooperative.
- All other libraries provide reference services at different times which either correspond with when the library is open or when they have staff available to answer questions.
- Some services forward questions to staff via email after hours, such as LibChat, while on other websites the chat box would disappear when chat was not available, like RefChatter.

Staffing
- Librarians provide some sort of virtual reference service at University of Iowa, University of Illinois at Urbana-Champaign, University of Minnesota, Northwestern University, Pennsylvania State University, and Ohio State University (6).
- Most libraries emphasized that subject specific questions are forwarded or referred to librarians for an answer even if a librarians was not staffing the chat at the time.
- Only the University of Iowa said that they allow library school students to answer questions through their virtual reference service.
- Graduate assistants from other disciplines besides information studies provided service at the University of Illinois at Urbana-Champaign.

- Library staff provided virtual reference coverage at the University of Michigan, Indiana University, Ohio State University, University of Iowa, Pennsylvania State University, and Purdue University (6).
- Northwestern University allows student workers to answer virtual reference questions on the weekend.
- Virtual reference services at the University of Minnesota, Michigan State University, University of Nebraska-Lincoln, and Purdue University are also provided by people throughout the country due to their participation in the QuestionPoint reference cooperative (4).
- Libraries participating in QuestionPoint's reference cooperative provided staff for a limited number of hours a day, however, the status of staff members from the specific institutions could not be determined.

Additional Comments

- University of Iowa reported that virtual reference transactions are typically handled by staff at a consultation area near the reference desk. On the weekend, chat is typically staffed at the reference desk.
- University of Chicago said that virtual reference questions are answered at the reference desk, but that in-library patron questions take precedence over those on chat.
- Northwestern University highlighted that their virtual reference service is designed for current students, staff, and faculty at their university. Questions from outside patrons are answered, but those from the university community take precedence.
- Pennsylvania State University has a designated "point person" who monitors all chat queues. Other staff people can monitor and pick up chats at the same time. Some staff also monitor chat queues that come in from a particular page, such as an interlibrary loan page, and answer specific questions.
- Pennsylvania State University also reported that when a staff member is the "point person" they are not on a reference desk, but if they are just monitoring chat, they might do so while on the desk.

Chat Reference Products Analysis

There are many different products available on the market that can be used for chat reference. The products listed here were chosen for review based on the popularity of their use by libraries across the country offering chat reference. They are:

- QuestionPoint (OCLC) - http://www.questionpoint.org/
- LibChat (Springshare) - http://www.springshare.com/libanswers/libchat.html
- RefChatter (Altarama) - https://www.altarama.com/Products/RefChatter
- LibraryH3lp (Nub Games, Inc.) - http://libraryh3lp.com/
- Spark (Jive Software - open source) - http://www.igniterealtime.org/projects/spark/
- ZoHo Chat (ZoHo Corp.) - https://chat.zoho.com/
- Comm100 (Comm100) - http://www.comm100.com/

- Alive Chat (WebsiteAlive) - https://www.websitealive.com/
- LiveHelpNow (LiveHelpNow) - http://www.livehelpnow.net/

Of the products listed, the first four are intended for library use in virtual information and reference activities. The next two, Spark and ZoHo Chat, are modified instant messaging systems that can be used to provide chat services. The last three are built specifically for businesses to use for customer support and sales. Information was gathered from product websites, from communication with product representatives, from use of the product as a chat operator in trial versions of the software, and from use of the product as a chat user communicating with operators at libraries with the software.

Evaluation of these products focused on their features and requirements from three perspectives: users, operators, and administrators. For chat users, mobility (mobile chat and SMS chat) and usability (works on multiple platforms) are key. Chat operators also appreciate mobility and usability, but ease of operation (web-based, simple interface, automated analytics) is the most important aspect. From an administrative perspective, the largest factors are training (how much is needed and how it is provided), staffing (how many operators can be logged in at one time, if chat sessions can be transferred to another operator), and assessment (how easily can statistics be exported and reports generated).

Table 1 shows their cost, features, technical requirements, training requirements, and ability to integrate with our existing assessment tools.

Product	Cost	Discounts	Features	Technical Requirements	Training Requirements	Integration with Assessment Tools
QuestionPoint	$3,657.50 - 6,982.50 per year for multiple operators	Free, if participating in MD AskUsNow!	Mobile chat; concurrent chats; external; transfer chats	Web-based; Flash-based operator interface; hosted by company	Extensive; provided by company	Does not record in RefAnalytics; has internal recording capability but statistics must be requested from company
LibChat	$1,302 per year (varies based on number of Springshare products) for multiple operators	$2,999 for LibChat + LibAnswers + RefAnalytics + SMS Module	Mobile chat; SMS extension; concurrent chats; transfer chats	Web-based; Flash-based operator interface (only in IE 8/9); hosted by company	Minimal; in-house	Automatically records in RefAnalytics
RefChatter	$1,990-2,985 per	N/A	Mobile chat;	Web-based; company	Minimal; provided by	Does not record in

			concurrent chats; SMS extension; transfer chats	provides full technical support; hosted by company	company	RefAnalytics; has internal recording
LibraryH3lp	$720 per year for multiple operators	N/A	Mobile chat; concurrent chats; SMS extension; transfer chats	Web-based; company provides minimal technical support; hosted by company	Minimal; in-house	Does not record in RefAnalytics; has internal recording
Spark	$0 per year for multiple operators	N/A	Mobile chat; concurrent chats	Dedicated server; in-house technical support; hosted by UMD Libraries	Extensive; in-house	Does not record in RefAnalytics; does not have internal recording capability
ZoHo Chat	$0 - $99 per year for multiple operators	N/A	Limited mobile chat; concurrent chats	Web-based; not supported in Chrome; hosted by company	Extensive; in-house	Does not record in RefAnalytics; does not have internal recording capability
Comm100	$252-588 per year for one operator plus $252-588 for each additional operator	N/A	Mobile chat; concurrent chats	Web-based with desktop app option for all but cheapest package; company provides technical support; customization severely limited; hosted by company	Moderate; in-house	Does not record in RefAnalytics; has internal recording capability
Alive Chat	$311.40 - 1,175.40 for two operators plus $120-360 for each additional operator	N/A	Mobile chat; transfer chats	Web-based with desktop app; company provides technical support; admin rights not available for cheapest package; hosted by company	Moderate; in-house with extensive company documentation	Does not record in RefAnalytics; has internal recording only in most expensive package
LiveHelpNow	$252 per	10% off total	Mobile	Web-based;	Moderate;	Does not

	year for one operator plus $252 for each additional operator	for yearly billing	chat; concurrent chats; transfer chats	company provides technical support; requires individual operator license for each operator; hosted by company	in-house with very little company support	record in RefAnalytics; has internal recording capability

Table 1. Comparison of chat reference products

Comm100, Alive Chat, and LiveHelpNow charge a base rate for a single operator license plus an additional charge for each operator after the first. The other products listed above give much greater flexibility in the pool of people staffing the chat service and allow for increased staffing during high use times. Similarly, the ability of one operator to work concurrently with more than one user and the ability to transfer chat sessions from one operator to another create a dynamic staffing environment. Concurrent chatting and transferring chat sessions vary in difficulty from product to product. QuestionPoint actively discourages using either feature, while LibChat and LiveHelpNow make both quite simple, and the other products fall somewhere between these in terms of ease of use.

All of the products investigated work across a wide variety of mobile devices and browsers. All but Spark and ZoHo Chat offer easily embeddable chat widgets for websites. All but Spark offer some level of technical support. QuestionPoint requires Flash, which limits operator use on Apple mobile devices. (LibChat also requires Flash in IE 8/9, but works without Flash in Apple default browsers.) LibChat, RefChatter, LibraryH3lp, Alive Chat, and LiveHelpNow are all fairly customizable in what is displayed to the user.

Training requirements are labeled minimal, moderate, or extensive based on how easy it is to get started once the software comes "out of the box." LibChat, RefChatter, and LibraryH3lp take ten to fifteen minutes to learn how to complete basic tasks. Comm100, Alive Chat, and LiveHelpNow take fifteen to thirty minutes, while QuestionPoint, Spark, and ZoHo Chat can take thirty minutes to an hour to become familiar with the basics. Only RefChatter and QuestionPoint offer extensive training programs by company representatives.

All but Spark and ZoHo Chat offer some form of statistics gathering within the program itself. QuestionPoint does not provide the statistics necessary to integrate with RefAnalytics data. Currently, chat operators self-report chat transactions in RefAnalytics, which requires moving from back and forth between programs. LibChat automatically records transactions to RefAnalytics, without the chat operator needing to take any extra steps. No other program listed here will automatically record chat transactions in RefAnalytics. However, RefChatter, LibraryH3lp, Comm100, and LiveHelpNow all have fairly simple-to-use data exporting features. This still requires someone to match the data across different systems.

We recommend purchasing LibChat, either alone or in addition to the existing QuestionPoint software. It is easy to use for users, operators, and administrators. It requires minimal training to begin using the program. It offers a unified login and interface for LibChat, RefAnalytics, and LibAnswers. It works well across multiple platforms and additional features such as SMS can be activated easily. There are few limits on the number of operators that can be logged in at one time. More complex tasks, such as chatting concurrently and transferring chats, can be accomplished quickly within a single interface. It eliminates the need to leave the program, as recording transactions in RefAnalytics is automatic.

Strengths, Weaknesses, Opportunities, Threats

Strengths:
- Chat is offered 24/7/365.
- QuestionPoint software is discounted substantially.
- Training is provided by Maryland AskUsNow! at no cost.
- Most LibAnswers questions are answered within 24 hours.
- Demand on chat and LibAnswers operators is low.

Weaknesses:
- Chat answers and referrals to UMD users from non-UMD libraries are lower quality.
- QuestionPoint software is unpleasant to use for users and operators.
- Assessment of chat service is difficult due to the few statistics QuestionPoint collects.
- There is no unified policy on nor use of statistic collection software.
- Chat and LibAnswers require beginner and refresher training.
- There is little to no marketing of chat service.
- Staff buy-in is low.

Opportunities:
- We know our users, resources, and policies best.
- Adjust service model to focus more on our users.
- Marketing could be increased.
- Staff would like to have more training in providing virtual and email reference.
- Assessment could be centralized and be more accurate with the adoption of LibChat.

Threats:
- Cost of a non-QuestionPoint chat product.
- Training demand would increase during transition to new software.
- Increased marketing could lead to unanswerable demand.
- LibAnswers Knowledge Base is inconsistent in answer quality and needs up-keep.
- LibAnswers turnaround time, while generally short, can have large outliers.

- More staff would need to be trained and kept up-to-date on any changes in software, policy, etc., including evening and weekend staff.
- Staff involved in chat and LibAnswers triage can burn out if not provided with a definite end date.

Recommendations

General recommendations

1. The provision of chat service for UMD users should be shifted away from the Maryland AskUsNow! cooperative and towards UMD library staff. This path is recommended given the general dissatisfaction with the cooperative's tool (QuestionPoint); the poor quality of service provided by the cooperative; the large number of referrals this system produces; and the success experienced by peer institutions with providing in-house chat service.

2. Chat should be better integrated with other information services and statistics collection. Possibilities include integrating chat and answering questions from LibAnswers into a single duty or shift; answering chat questions at library service desks during hours of slow activity; and implementing Springshare's LibChat, which integrates with LibAnswers and RefAnalytics.

3. Categories for data collection in LibAnswers and RefAnalytics should be reevaluated by the Coordinator for Assessment and Planning and the person(s) responsible for coordinating virtual information services. Suggestions include removing redundant or underutilized fields; making terminology consistent across systems and services; and improving the layout so that recording transactions is as easy as possible.

4. It is important to achieve buy-in amongst PSD librarians and staff for virtual information services and the collection of statistics related to these services. Not all PSD librarians and staff are recording their chat and email questions in RefAnalytics, and many take issue with the current chat staffing model, which is based on quotas. Greater participation and support is needed for virtual information services to be successful in the future.

5. It is recommended that enthusiastic volunteers from across all divisions of Public Services and the UMD Libraries be recruited to provide virtual information services. All library staff should have the opportunity to provide chat or participate in LibAnswers triage if interested, but support from administrators and supervisors for such a model is needed. The Libraries' job enrichment program is a possible means of library staff from other divisions to participate in virtual information services.

6. Guidance is needed from the UMD Libraries' administration about where the provision of information services (either virtual or at a service point) fits into the overall vision of Public Services and the job descriptions of its librarians and staff. For instance, should providing chat or working at a service point be mandatory for all PSD librarians (or for all PSD staff)? If so, can one form of service substitute for the other to accommodate individual preference? The answer to these questions will help determine the potential staffing pool for chat should there be an insufficient number of volunteers.

7. Participation needs to account for burn out of chat and LibAnswers triage operators. We suggest a six month term of Winter/Spring/Summer I and a six month term of Summer II/Fall. This allows for training during slower periods of the academic year and for library staff to volunteer or re-up with a better understanding of the commitment they are making.

8. A dedicated staff person should coordinate virtual information services. This may not be his/her only job duty, but it should be a primary one. Responsibilities would include coordinating staffing/scheduling, organizing training and promotion, and handling system management. This person would collaborate with the heads of the areas within Public Services to ensure that there is an adequate staffing for virtual information services in and work in partnership with other relevant groups in the UMD Libraries.

9. Training for virtual information services should be provided on an on-going basis throughout the year (at least every six months to coincide with the recommended terms of service). Training should be offered for new chat and LibAnswers operators and for returnees (to highlight new features, policies or procedures). Collaboration with the Customer Service Training Group should be explored.

10. Robust marketing of chat is needed. Chat should be advertised online as well as in the physical library. Promoting the use of virtual reference services should also occur during library instruction and by staff at the service desks. Staffing model may need to be adjusted/reassessed in the future should marketing result in increased demand.

Proposed Models

The Virtual Reference Services Task Force members propose the following models for virtual information services:

Option 1: New & Improved 24/7 Coverage for UMD Users

The UMD Libraries would provide our own chat service for UMD users using LibChat and answer questions submitted through LibAnswers during regular library hours. Accordingly, during the fall and spring semesters, chat would be provided from 8am-11pm Monday-

Thursday and from 8am-7:30pm on Friday.[12] Weekend shifts would continue to be covered by QuestionPoint.

During non-peak hours when the library is open (e.g. 8am-10am and 4pm-11pm), chat would be provided by library staff working at our service points. This includes librarians, staff, and student assistants who have received thorough training in library policies and referrals. Everyone working at a service point at one of our seven on-campus libraries during these times would be signed into both chat and LibAnswers, so that they can answer chat and email questions when not helping users in person or over the phone.

During peak hours of virtual and in-person activity (11am-4pm Monday-Friday), chat coverage independent of the service points would need to be scheduled. This overall number of weekly hours (25) is higher than the current 16 hours/week, but should be manageable if chat operators are drawn from a larger pool than just the librarians within Research Services. In the future, the number of scheduled hours may be adjusted depending on the demand for the reconfigured service and as a result of the McKeldin first floor redesign with a single desk for library services.

Outside of regular library hours (e.g. during Late Night Study, over the weekend, and when the Libraries are closed), UMD users would be directed to QuestionPoint where they would receive assistance from the cooperative. From the user perspective, the entry point for chat would be the same, but who provides the chat differs depending on the day/time (see Appendix E for example). Thanks to continued participation in Maryland AskUsNow!, UMD users would receive the continued benefit of 24/7 chat coverage.

There are two potential drawbacks to this option:

1. UMD library staff would still have to deal with referrals from QuestionPoint, which has proved problematic during the past years. Although referrals should be fewer since UMD users would be using QuestionPoint less frequently, they would still require ongoing management by a coordinator and ongoing training for staff who answer referrals.
2. Maintaining participation in the cooperative requires that UMD library staff continue to provide chat for users outside of UMD through QuestionPoint for 16 hours per week. Should this option be pursued, it is recommended to have a separate cohort of chat operators to provide this service (to prevent confusion between the two systems).

To reduce the burden on library staff, a partnership with the iSchool (either as part of a field study or information services class) to provide or assist with providing the QuestionPoint service could be explored. Hiring a graduate assistant or dedicated graduate student workers is

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[12] Regular hours here are defined by the hours for McKeldin Library, which are slightly longer but overall very similar to those for the Engineering, Chemistry, and Performing Arts Libraries. A half hour has been removed on evenings where McKeldin staff must close the building (in absence of Late Night Study).

another option, but may be cost prohibitive. Depending on the nature of the partnership, it may be worth renegotiating the hours that the UMD Libraries' provide chat service for the Maryland cooperative to ensure that they do not conflict with class times for graduate student courses.

Option 2: A UMD Service for UMD Users Only

The UMD Libraries leave the Maryland AskUsNow! Cooperative and abandon QuestionPoint. Instead, we provide our own chat service for UMD users using LibChat, and answer questions submitted through LibAnswers during designated hours of service. Outside of those hours of service, the chat entry point would direct users to submit their questions through LibAnswers instead, so that library staff can reply once the library reopens.

There are two variants of option 2:

- **Variant 1:** The UMD Libraries provide chat and answer questions submitted through LibAnswers only during regular library hours.   During the fall and spring semesters, chat would be provided from 8am-11pm Monday-Thursday, from 8am-7:30pm on Friday, from 10am-8:30pm on Saturday, and from 11am-11pm on Sunday.[13]

- **Variant 2**: The UMD Libraries provide chat and answer questions submitted through LibAnswers whenever McKeldin Library is open. During the fall and spring semesters, chat would be provided from 11am on Sunday through 7:30pm on Friday and from 10am-8:30pm on Saturday. This service model would require Late Night Study staff to be signed in to chat and LibAnswers when working at the Circulation and TLC Tech Desks.

Like option 1, UMD library staff working at service points (be it librarians, staff, or well-trained student assistants) would answer or refer chat and LibAnswers questions during non-peak hours when activity is slower, while during peak hours of virtual and in-person activity (11am-4pm Monday-Friday), chat coverage would be scheduled separately.

There are conditions that would need to be met in order to extend chat to Late Night Study hours, such as providing training before the staff shift to Late Night hours and recognizing the chat may need to be disabled during their peak times of activity (e.g. from 10:30pm-12:00am and other times during the weeks surrounding finals). It is also possible that should demand for chat or other services during Late Night Study continue to grow, additional staffing may be required.

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[13] Keeping in mind that some weekends are busier than others and may require chat traffic be routed to LibAnswers, Maryland Day for instance.

To reduce the burden on librarians and staff for scheduled chat coverage (25 hours per week), a partnership with the iSchool (either as part of a field study or information services class) or hiring of dedicated graduate student workers to perform this service could be explored. The 12-1pm hour in particular could be considered, as this is the time when our service points are busiest and the variety and quantity of questions coming through chat is the highest.

The primary drawback to this option is the loss of guaranteed 24 hour chat coverage. This loss can be mediated by directing users to LibAnswers to submit their question; however, it remains true that chat meets different users' needs than email and that there will be times where UMD users cannot receive immediate answers to their questions.

Instant Messaging

Instant messaging (UMD Libraries use Microsoft Lync for this currently) is a wonderful tool for back end communication. In the context of virtual reference, Lync can be used to ask a coworker to assist the chat operator with a question or check the availability of a possible referral for quicker assistance. This makes transferring patrons from one person, department, or branch to another less necessary. If the chat operator gets overloaded with too many simultaneous questions, they can use Lync to ask for another operator to log on. Lync can also help patrons asking questions at a physical desk by allowing staff to bring in expertise on IM.

Individual Subject Reference

When not at a service site, subject librarians have been asked to record their individual reference transactions (email, phone, in-person appointment, in-person walk-in) into RefAnalytics. But, as the staff survey showed, almost half of the respondents (49%) do not keep statistics, and as the RefAnalytics data show, only 37% of subject liaisons recorded their email reference transactions. It is recommended that emphasis on recording reference transactions be part of the annual review or PRD process. Recording reference transactions should be given the same importance as recording Library Instruction sessions.

If the Libraries adopt LibChat, then reference transactions coming through any chat entry point (e.g. Libraries homepage, LibGuides) will be automatically recorded. Reference librarians would then have to enter only those transactions they receive via their own email or phone or in-depth appointments.

Opportunities to expand the presence of individual subject librarians at the point of need are growing. Thanks to the recent integration of LibChat and LibCal[14] functionality with the LibGuides platform, subject librarians can now add buttons to their LibGuide profiles for users to chat or schedule an appointment directly with them. Librarians are also embedding their LibGuides and other content in Canvas modules for their departments.

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[14] For more information about Springshare's LibCal product, visit http://www.springshare.com/libcal/

Beyond Traditional Virtual Reference

Why make our patrons come to us, when we are already in our patron's pockets? Text or SMS question submission is becoming a standard feature in many virtual reference products. While most libraries use this feature to field general information questions and make referrals, some libraries have started using it to help patrons lost in the stacks. Posting a "Can't find your book? Ask us!" sign and the number to text in the stacks, and having it go directly to the Stacks unit or the library's main desk for in-person help would save our patrons from wandering from floor to floor, looking for another person or giving up entirely. Patrons may also take it upon themselves to use this service to report problems in the stacks that might otherwise be missed. A patron has already used LibAnswers to report an out-of-order elevator by logging in through the browser on their phone.[15]

Integrating social media into our current virtual information services also makes us more accessible and approachable to our users. The UMD Libraries are already fielding LibAnswers questions through Twitter at @AskUMD.[16] Any question tweeted to that handle goes to the LibAnswers triage group and, once answered, is included in the Knowledge Base. This service is not currently being marketed and has very low use (only 29 tweets as of February 20, 2014). It was most recently active during the snow closure on February 13, 2014 when students were worried about fines for books overdue due to the weather. Baylor University librarians have developed a model for providing assistance through Twitter that can be used as a guide for expansion of this service.[17]

Mobile devices are not the only way we can use virtual tools to help patrons in-person. Currently, if a patron is having an issue on a computer, they must get up and leave their computer, still logged in and surrounded by their possessions, to come to a service desk to ask for help. Having a chat widget directly on the desktop of each public workstation that would automatically direct the issue to the closest service desk would alleviate the problem. These are only a few of the ways we could adapt current technology to new purposes in the library.

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[15] See http://umd.libanswers.com/priva.php?qid=323577 (must be logged in to LibAnswers to view)

[16] See https://twitter.com/AskUMD for most recent activity

[17] Hampton Filgo, Ellen. "Using Twitter for Virtual Reference Services." *Implementing Virtual References: A LITA Guide*. Ed. Thomsett-Scott, Beth C. Chicago: ALA TECHSOURCE, an imprint of the American Library Association, 2013. 31-46. E-book.

Appendices

Appendix A: Virtual Information Services Task Force Charge

Project:

Study the Libraries Virtual Information Services and make recommendations for service improvement. This study should be broad in scope, encompassing all areas of virtual reference, including direct one-on-one virtual reference services provided by subject specialists and curators, IM services, CHAT, and LibAnswers services, and all staff and departments within the Libraries who could potentially provide these services.

The work of Virtual Information Task Force (VISTF) will primarily be assessment and evaluation of current virtual information services, and recommendation of changes to better support user needs given the libraries' and academic landscapes.

Background:

University of Maryland Libraries has been providing online reference services for at least 10 years. However these services have never been re-examined and evaluated for their effectiveness, level of robustness, user needs, use of staff resources and time, best virtual cooperatives for our needs, etc.

Scope of the Work:

The Virtual Information Services will do the following work:

- Assess the effectiveness of existing CHAT service, which include levels and types of staffing, hours of operation, cooperative that we are a member of, CHAT program we use, etc.
    - o Perform a literature review and environmental scan of how our peer institutions and other institutions of higher learning are offering virtual reference services for users.
    - o Study collected statistics of existing service use.
    - o Gather input from staff that provide virtual information services to solicit ideas, and gather feedback on recommendations.
    - o Perform budget analysis of existing service use, such as for example cost effectiveness based on staffing levels and hours of operation across the Libraries.
- Assess the need and use of instant messaging for information service's needs.
- Determine how individual subject reference is provided and if there are ways to expand and improve this service
- Perform a SWOT (Strength, Weaknesses, Opportunities, and Threats) analysis based on the findings.
- Look into the new technologies and make recommendations about their incorporation into the virtual reference models.
- Make recommendations about how services can best be delivered to users.
- Explore potential partnerships with the iSchool as related to virtual reference services. .

Documents to consider:

- Study of the Libraries' Information and Research Final Report, 9/2011, http://libi.lib.umd.edu/sites/default/files/Study%20of%20the%20Libraries%20Information%20and%20Research%20Services%20Rev%20092611.pdf .
- Liaison Services Task Force Final Report, http://libi.lib.umd.edu/sites/default/files/Liaison%20Task%20Force%20Final%20report%2010%20June%2020132%20copy.pdf.
- Statistics gathered from LibAnalitics, including frequently asked questions
- Environmental scan and literature review of other institutions

Duration:

- Work to commence in October 2013
- Report Due to Cinthya Ippoliti and Yelena Luckert by February 17, 2014

Deliverables:

- Assessment and evaluation of current virtual information services
- Recommend a plan for redesigning Libraries Virtual Information Service model to better align it with user needs within a broader UM Libraries environment and overall academic landscape. This plan should define two to three possible service models, which will include nature of service, technology, partnership with outside providers and staffing levels.

Contact persons: Cinthya Ippoliti, Yelena Luckert
October 22, 2013

Appendix B: Staff Survey Data

1. Do you currently provide chat coverage?
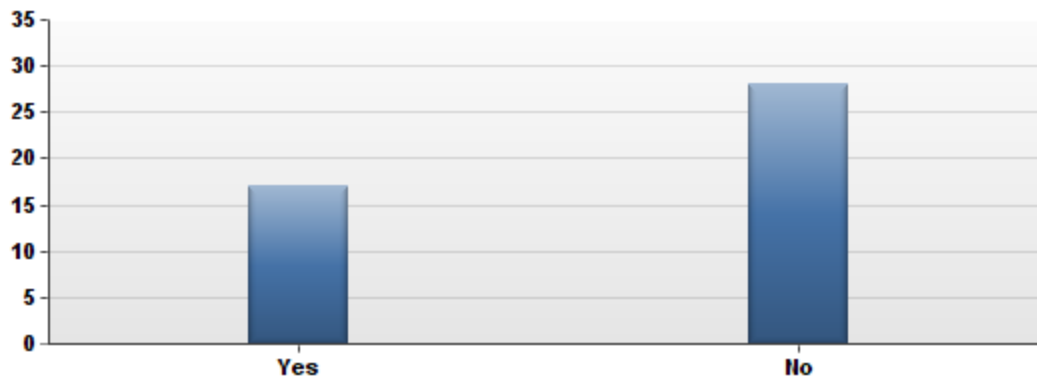
#	Answer		Response	%
1	Yes		17	38%
2	No		28	62%
	Total		45	100%

Statistic	Value
Min Value	1
Max Value	2
Mean	1.62
Variance	0.24
Standard Deviation	0.49
Total Responses	45

2. Have you provided chat coverage in the past?

#	Answer		Response	%
1	Yes		24	55%
2	No		20	45%
	Total		44	100%

Statistic	Value
Min Value	1
Max Value	2
Mean	1.45
Variance	0.25
Standard Deviation	0.50
Total Responses	44

3. Do you answer referrals from chat?

#	Answer		Response	%
1	Yes		27	60%
2	No		18	40%
	Total		45	100%

Statistic	Value
Min Value	1
Max Value	2
Mean	1.40
Variance	0.25
Standard Deviation	0.50
Total Responses	45

4. What hours should chat services be provided by UMD Libraries?
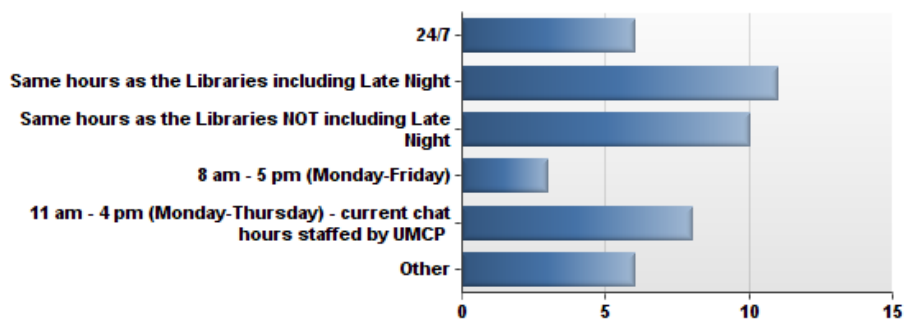
#	Answer		Response	%
1	24/7		6	14%
2	Same hours as the Libraries including Late Night		11	25%
3	Same hours as the Libraries NOT including Late Night		10	23%
4	8 am - 5 pm (Monday-Friday)		3	7%
5	11 am - 4 pm (Monday-Thursday) - current chat hours staffed by UMCP		8	18%
6	Other		6	14%
	Total		44	100%

Other

10-8 (M-Thurs, 10-4 Friday)

Never

Whenever we're answering telephones

When the library is closed.

9am - 5pm

I think that chat services should be provided during whatever hours we can demonstrate a need for them; in the absence of data, I do not have an opinion on exactly what this would/should mean.

Statistic	Value
Min Value	1
Max Value	6
Mean	3.32
Variance	2.78
Standard Deviation	1.67
Total Responses	44

5. Do you think chat service to UMCP students and faculty should be provided by libraries outside of UMCP?
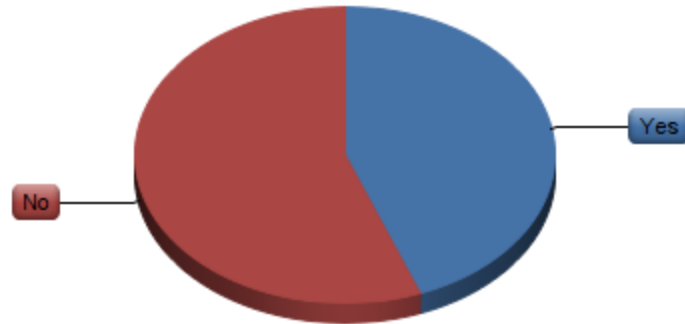
#	Answer		Response	%
1	Yes		19	44%
2	No		24	56%
	Total		43	100%

Statistic	Value
Min Value	1
Max Value	2
Mean	1.56
Variance	0.25
Standard Deviation	0.50
Total Responses	43

6. Who should provide chat services? (check all that apply)

#	Answer		Response	%
1	Librarian		41	91%
2	Paraprofessional		34	76%
3	iSchool Student		33	73%
4	Other Student		9	20%
5	Other (please specify)		9	20%

Other (please specify)
trained graduate students in any field able to refer appropriately
subject experts outside library
GA
probably a tiage
Anyone who answers a telephone
anyone who is qualified
I have no idea
Any competent student who can work a desk can work chat
Chat services should be provided by anyone qualified to do so; whether this means librarians, paraprofessionals, or students of some stripe would depend entirely on the articulated goals of the service. In a vacuum, I would imagine that an iSchool student or a *dedicated* (i.e. this is their job) "other student" would be capable of providing largely referral-based ("for further research assistance on that subject, please contact Subject Librarian X") chat services.

Statistic	Value
Min Value	1
Max Value	5
Total Responses	45

7. Do we need to hire a dedicated staff person(s) to staff the chat service only?
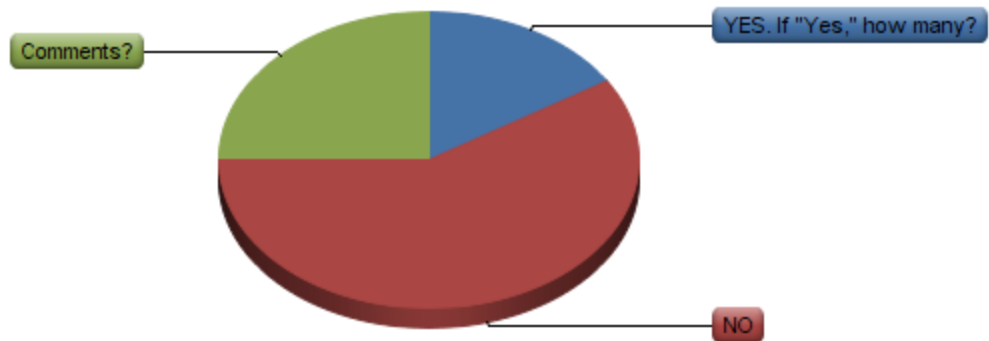
#	Answer		Response	%
1	YES. If "Yes," how many?		9	20%
2	NO		33	73%
3	Comments?		14	31%

YES. If "Yes," how many?	Comments?
	However, one person should be dedicated to coordinate the service among other library duties.
	staff who work here will have the knowledge but will need time to do a shift
	There should be a dedicated staff person to manage it, and grad school interns could certainly help--but I don't think any new staff need to be hired.
1	Perhaps part of their duties - as monitoring chat does not always mean actively answering chat questions
	not sure - it might improve service if we hire people who really like doing it. I think volunteers from present staff may be enough
	A dedicated staff person may be needed if the number of chat interactions reach such a level.
	we need dedicated person/s but they could do other duties as well
	Chat should be a part of everyone's job. Please, it's 2014!
	don't know
	yes 1 or 2
	I don't know
	Demand does not currently justify dedicated staff. Maybe if we promoted it more and usage increased.
4	ischool students or graduate students, who would refer questions to librarians they could not anwer
	I think a careful evaluation should be done of time spent in chat services first
1	
4	
	At least 4
	1 to coordinate
.5	
	2 plus help from existing staff

Statistic	Value
Min Value	1
Max Value	3
Total Responses	45

8. How many persons should staff the chat service simultaneously?
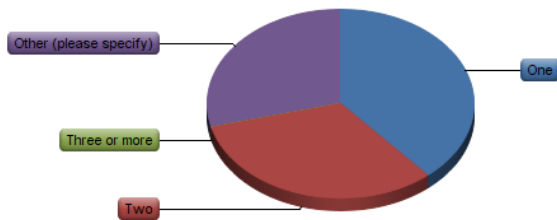
#	Answer		Response	%
1	One		12	39%
2	Two		10	32%
3	Three or more		0	0%
4	Other (please specify)		9	29%
	Total		31	100%

Other (please specify)

no idea how many

anyone who is free to be online, minimum of two

at present, 1 is usually OK; Global seemed to be busier (at least when I did it last year)

Hmm..I'm sensing a pattern here. I think anyone who is reachable by email or phone should be staffing chat. See fuller explanation under Any ideas/recommendations for the future of UMD Libraries chat services?

don''t know

I have no idea.

1 main person + branch staff as they are able.

Currently one. However, if we sufficiently promoted this service so that it was more widely used, then we should raise the staffing level.

depends on current number of request

Statistic	Value
Min Value	1
Max Value	4
Mean	2.19
Variance	1.56
Standard Deviation	1.25
Total Responses	31

9. How many hours per chat operator should be required per week?
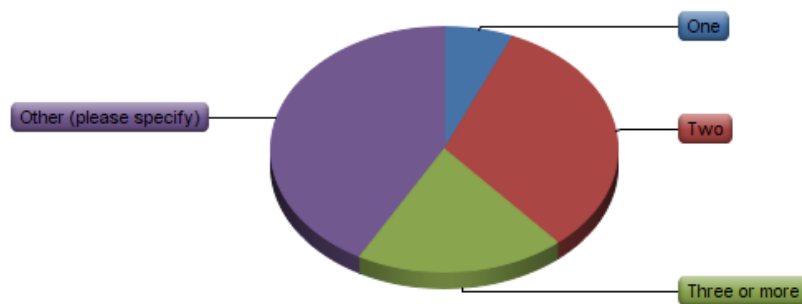
#	Answer		Response	%
1	One		2	6%
2	Two		10	32%
3	Three or more		6	19%
4	Other (please specify)		13	42%
	Total		31	100%

Other (please specify)

It depends on the librarian's job description (responsibilities). For reference librarians, three or more hours are required.

don't overload

Depends on type of operator--less for librarians, more for ischool interns

should NOT be required - it's better to be done by people who LIKE doing it and are committed to it as a potentially big market for our services

See below. Whenever at a desk and "available" chat should be monitored.

Dependent on other duties & no. of hours.

don't know

not sure about this - some like to do chat others do not -

No clue.

One assigned by semester, but an easy way to ask for shift swaps

Demand would have to increase to justify more than an hour or two. Or those staffing could be expected to multitask more

Again this depend on how much the service is used.

Depends on total number of people

Statistic	Value
Min Value	1
Max Value	4
Mean	2.97
Variance	1.03
Standard Deviation	1.02
Total Responses	31

10. How do you keep track of your chat transactions? (check all that apply)
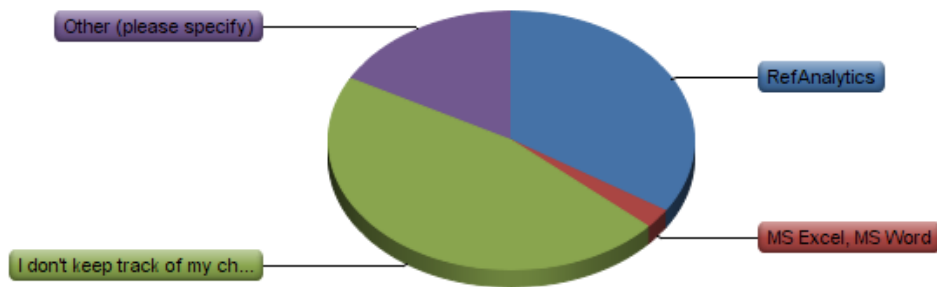
#	Answer		Response	%
1	RefAnalytics		14	36%
2	MS Excel, MS Word		1	3%
3	I don't keep track of my chat transactions		19	49%
4	Other (please specify)		7	18%

Other (please specify)
n/a
I keep an "Eref" file, to refer to old sessions when I get a repeat visitor. I also maintain a separate file of patent/trademark reference
In questionpoint
Calendar
email folder
I don't do any chat!
N/A

Statistic	Value
Min Value	1
Max Value	4
Total Responses	39

11. How should patrons access the chat service? (check all that apply)
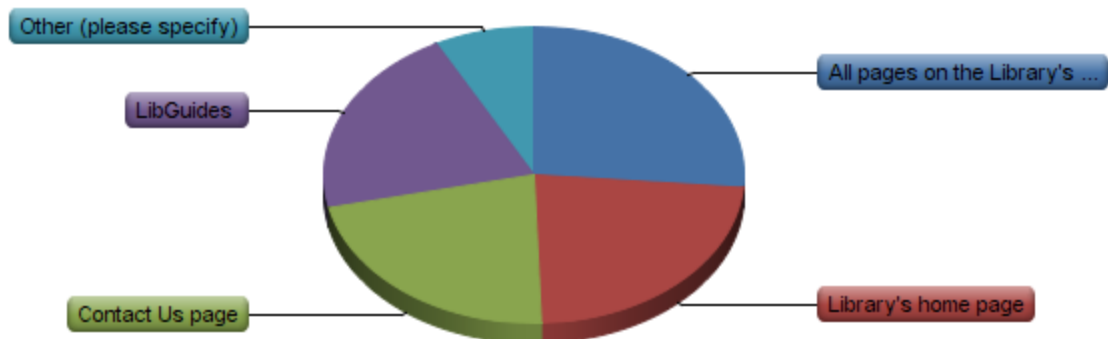
#	Answer		Response	%
1	All pages on the Library's Web Site		24	60%
2	Library's home page		21	53%
3	Contact Us page		20	50%
4	LibGuides		19	48%
5	Other (please specify)		7	18%

Other (please specify)
links from databases and ejournals are also important
Phone
On public library workstations, a floating "widget" should be offered so users can access chat from any page.
whatever works
Text messaging. Auto email when it's off.
Any place on our Web Site where the service might be helpful.
Should be on every page in same location

Statistic	Value
Min Value	1
Max Value	5
Total Responses	40

12. What training do you recommend? (check all that apply)
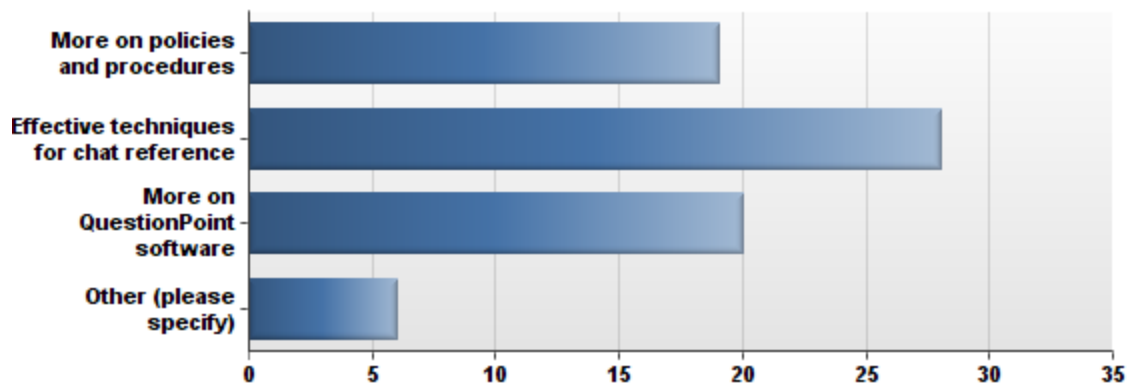
#	Answer		Response	%
1	More on policies and procedures		19	53%
2	Effective techniques for chat reference		28	78%
3	More on QuestionPoint software		20	56%
4	Other (please specify)		6	17%

Other (please specify)
Lync!
General reference training - answers matter more than software or techniques.
Switch to LibraryH3lp. Question point is terrible.
training on some of the most popular databases and why one would use them and how
How to refer

Statistic	Value
Min Value	1
Max Value	4
Total Responses	36

13. Please tell us what you like about the existing chat service.

Text Response

I like that it is available. I have no experience of it but have used it with LLBean and it was helpful as it was instant

Nothing--full stop.

I like nothing in the current chat service.

Relatively easy to use; able to accomplish other work while waiting for questions.

We use ask a librarian and it is very simple to use. It is self explanatory

I enjoyed Global shifts, and learning how to use the common (de-facto standard) characteristics of library web sites

Current schedule is not overly taxing on library staff.

pretty much nothing

we don't have to cover 24/7 ourselves because of our partnership with MD

Hmm...I honestly don't like much about it!

Promptness of service

It exists

n/a

I like that we provide the service

keeps me at my computer and I can do other things while I am waiting for questions

time commitment for librarians is minimal

That I don't have to use it in any way.

Nothing.

Um, not much. Providing some sort of chat to students is good.

You get a variety of questions. There are other librarians available to answer questions when you get busy with a patron.

i think patrons like to know that it is there, and that they can access it at any time

It gives users who might otherwise not contact a librarian, the opportunity to do so. It provides outreach to the campus community.

Easy to use

I have not used the chat services and my work does not require me to do this task

I do not use it.

Statistic	Value
Total Responses	25

14. Please tell us what you don't like about the existing chat service.

Text Response

(1) Our librarians spend bulk of their time answering questions from the general public. (2) UMD users often receive poor quality chat from librarians not associated with UMD. (3) Stats are extremely limited and cannot integrate with LibAnswers. (4) Too many referrals (most inapprorpiate) and no way to feed them to LibAnswers--UMD staff have to monitor two systems. (5) Technically limited/outdated. Cannot imbed videos, etc.

The software has been the same for years, and has been outdated for years.

Most times, we are the ONLY MD institution signed in - when there should be more than one monitor per time slot. I find myself answering questions from other USMAI and MD community college questions more than UMD questions.

It does not appear on the USG homepage for the library

I think many librarians' hearts are not in it. They are under a great amount of pressure to do other parts of their jobs (collections, instruction, web site maintenance, etc). Chat obviously is labor intensive, and a one hour shift often leaves little sense of accomplishment. My major problem with it is lack of followup, with questions being left unanswered - or not responded to until a day of so later. The market for online reference dies fast if patrons don't hear back within a few hours

Answering questions from non-UMD is a frustrating experience. Hard to know what electronic and print resources they have access to, etc.

people outside of UMCP answering UMCP questions; UMCP librarians answering non-UMCP questions; chat software lags; very little usage from our patrons; majority of questions would be easily answered by a well-written FAQ; procedural questions should not be answered by subject librarians (since they don't know anything about that); users have expectations for chat interactions (e.g. quick) that we cannot meet

does not have to be monitored by librarians, does not have dedicated person/s to ensure schedule

One librarian at a time makes it more onerous to transfer a question to an expert; hours are limited and somewhat arbitrary, and don't necessarily match up with peak need hours; politics surrounding who does and doesn't do chat and how many hours are expected; confusion for patrons who expect to reach a librarian from a community college and instead reach us; helping users at other campuses, which we can't do very well since we don't have access to the same databases, takes away time we can spend on UMCP users.;

Lack of availability sometimes

Needs more robust marketing, policies and training

n/a

I hate QuestionPoint as an end user and as a chat provider

answering questions coming in from other schools, answerting questions from patrons coming through our site but not affliated with us, answerting questions from k-12

not everyone participates; quality of service varies greatly

This survey.

Question point is clunky and outdated.

Software is clunky, referrals are a pain, late night coverage is pointless because questions just get

referred, system generated stats are useless, but mostly, there isn't enough demand from college park students to make sitting at your computer for an hour worthwhile.

The software is hard to use and you don't have any control over librarians from other institutions and the answers they provide.

It is hard to question the patron about what research they really are looking for.

don't like dealing with questions from students other than UMD

Low usage. Sessions during which we only get one or no questions.

Nothing

Don't have any problems

See above

Statistic	Value
Total Responses	25

15. Any ideas/recommendations for the future of UMD Libraries chat services?

Text Response

Get rid of QP and go with Libchat for complete Springshare integration of our virtual information services and all stats related to answering questions from the public.

Move away from Question Point.

Figure out a way to incorporate statistics from whatever system is used automatically - without forcing us to enter stats into RefAnalytics - that is a waste of time.

make it as easily accessible as possible

open it to anyone truly interested in helping out - and above all, NO quotas, probably not even by subject team (for example, PAL seems to get very heavy demand, and some other librarians or grad students and staff could help answer)

cancel it; if anything, switch to scripted text message service for basic questions

Yes! I think chat should move away from a separate service and move towards being incorporated into regular workflows, with the model being the telephone. If we have a service desk that answers phones, the staff at that desk should also be on chat. If a reference librarian takes phone reference calls, they should be logged onto chat when at their desk, and so forth. I guess I'm proposing more of an IM type service than chat. At this point, immediate virtual communication is just one more tool we can use to communicate. This approach would improve the chances of a patron reaching the right person for their specific question. We might need a few extra people to do triage and take care of routine questions like hours, etc.

n/a

Change the software

stop the affilation with questionpoint and having to answer questions from folks not affliated with us

Question Point's tracking and referral capabilities are good, but the whole system is clunky and outdated. Maybe a simpler chat tool would be better?

Nope. It's beyond the scope of my duties

Move to Libraryh3lp like the more cutting edge university library systems have.

Either promote it more and switch to lib chat so it interfaces better or don 't bother.

Have active campaigns to promote it more heavily. It is not promoted now.

If you are thinking about hiring a person specifically to do this job is needless. It is a time for library faculty to become acquainted with the needs of students of varous colleges and departments.

None at this time.

Statistic	Value
Total Responses	17

16. Are you or have you been in the LibAnswers triage group?
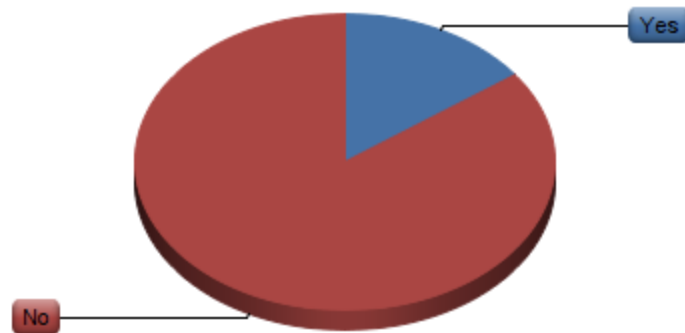
#	Answer		Response	%
1	Yes		6	15%
2	No		34	85%
	Total		40	100%

Statistic	Value
Min Value	1
Max Value	2
Mean	1.85
Variance	0.13
Standard Deviation	0.36
Total Responses	40

17. Do you answer questions referred from LibAnswers ?
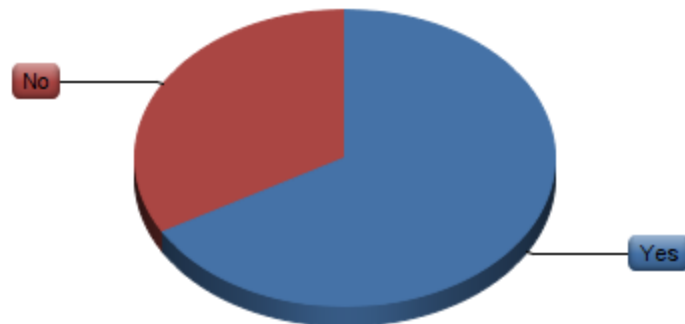
#	Answer		Response	%
1	Yes		26	67%
2	No		13	33%
	Total		39	100%

Statistic	Value
Min Value	1
Max Value	2
Mean	1.33
Variance	0.23
Standard Deviation	0.48
Total Responses	39

18. Do you think LibAnswers triage should consist of:
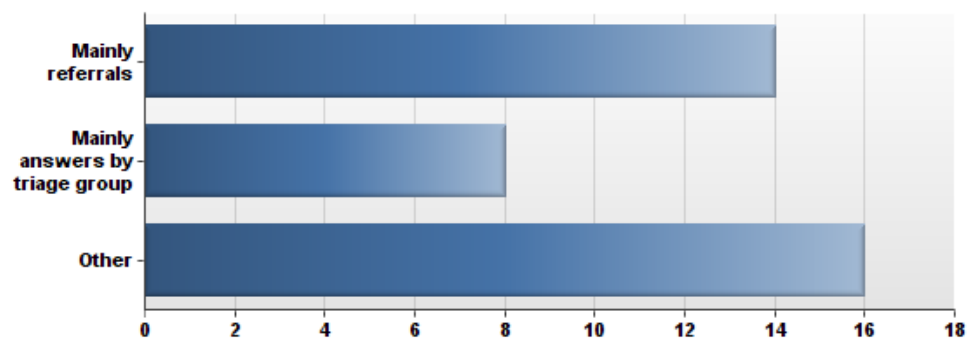
#	Answer		Response	%
1	Mainly referrals		14	37%
2	Mainly answers by triage group		8	21%
3	Other		16	42%
	Total		38	100%

Other
no sure
Some questions should be answered from the triage group, some should be referred. This is not an Yes or No answer.
referrals, but with definite followup (subject specialist responds to triage, or otherwise closes the question)
whatever is relevant for the question; isn't that what triage means?
probably a combination
Not sure how to answer. General questions should be answered by triage group, which I suppose means "mainly answers by triage group." But I would recommend erring on the side of referral for all but the most general questions.
Based on questions asked: referrals for difficult issues or queries, triage-group for standard or basic questions.
Not sure.
both - it would be nice to rotate the members of the triage group
Lib answers is terrible. Make the website user friendly instead.
Combination as needed
should consist of referrals or triage group depending on question
don't know
Will be both depending on the questions

Statistic	Value
Min Value	1
Max Value	3
Mean	2.05
Variance	0.81
Standard Deviation	0.90
Total Responses	38

19. Should triage for LibAnswers be performed by:
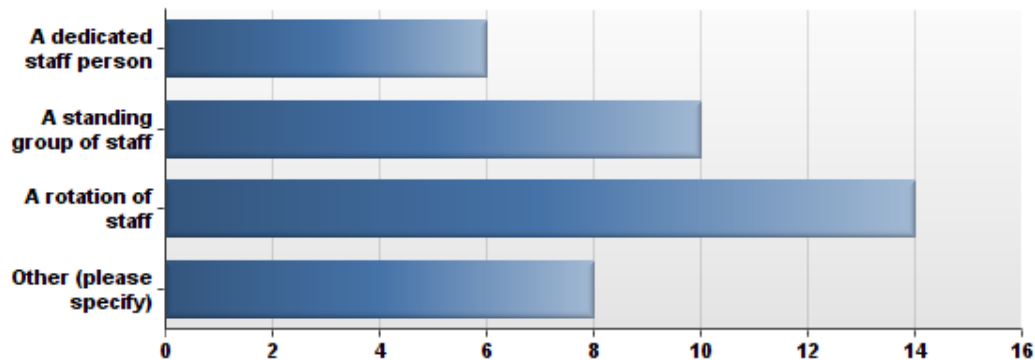
#	Answer		Response	%
1	A dedicated staff person		6	16%
2	A standing group of staff		10	26%
3	A rotation of staff		14	37%
4	Other (please specify)		8	21%
	Total		38	100%

Other (please specify)

Standing group that will rotate every couple of years

probably dedicated staff, but enthusiastic volunteers MIGHT work

either one of the first two, but not by a rotation

I think most triage should be done by a dedicated staff person. BUT, maybe we can also allow for staff to "grab" questions they come across if they feel they can answer them best. Not sure.

Not sure.

Mck Ref Staff

Get rid of it and train people and update the website instead.

Statistic	Value
Min Value	1
Max Value	4
Mean	2.63
Variance	1.00
Standard Deviation	1.00
Total Responses	38

20. What training do you recommend? (check all that apply)
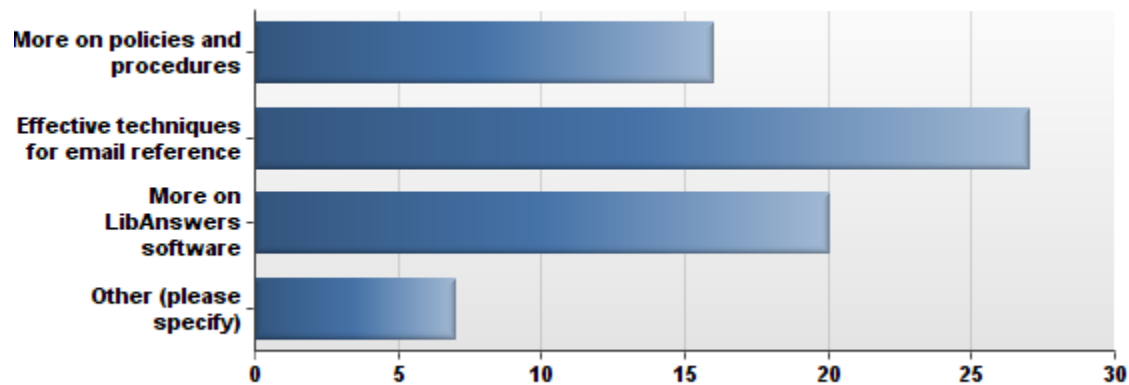
#	Answer		Response	%
1	More on policies and procedures		16	46%
2	Effective techniques for email reference		27	77%
3	More on LibAnswers software		20	57%
4	Other (please specify)		7	20%

Other (please specify)
LibAnswers seems fairly straightforward, but maybe a bit more on the software and procedure for followup
Again, standard reference training is the most important.
don't know
Al of the above.
How to function int he modern technology world as a library
general training in all of our resources

Statistic	Value
Min Value	1
Max Value	4
Total Responses	35

21. Please tell us what you like about the existing LibAnswers service.

Text Response

(1) Easy to use and lots of options when answering questions. (2) Robust stats and integrated with RefAnaltytics--all the stats I need, and all my stats in one place. (3) System is very customizable.

I like that each librarian has its own account, so statistics can be easily generated (I assume).

Patrons seem to use this more than QP/AUN.

easy to use

easy to use and navigate and edit answers, etc. (The easy edit COULD be a problem; it seems NOT to be limited to the original author, though I have not tested that suspicion!)

it's at least easier to manage user expectations than it is with chat

Easy tracking of statistics, easy referrals

good start

n/a

Simple to use once you're used to it

questions being referred to me that are in my subject area

good content so far

I don't use this.

Nothing.

Point of need help for students, great interface, solid stats

Easy to use and answers can be reused.

don't use

I don't use it

Statistic	Value
Total Responses	18

22. Please tell us what you don't like about the existing LibAnswers service.

Text Response

People don't always answer questions in the system--however, this is a training issue, not a system issue.

The triage group should get trained in how to refer question to the correct group. Probably the groups are not very obvious, that's why questions end up with an individual not the expert. Instead of guessing who is the expert, the question should be referred to a broad subject group reflector.

Sometimes confusing to answer questions.

word processing is a bit flaky - extra spacing, etc. until you get used to it. The main problem I see is that followup seems slow to me. Nights, weekends and especially holidays see some VERY long waits for answers. It is not clear to me that some questions ever did get answered

sometimes unclear when someone else has taken or will take the question (when forwarded to a list)

Just little things about the software. When logged in, I wish it provided a link to see all questions answered by or assigned to me. Sometimes I accidentally claim a question when all I want to do is view the question in more detail. It would be nice to have the option to answer a question directly from Outlook but then update Libanswers at the same time. Policy-wise, I'm confused about what to do with unanswered questions that are waiting for triage. I'm not on the triage group but sometimes I see a question in the queue that I could answer quickly--should I answer it? Leave it? Add a note with the information I have? I would also like the ability to forward a question to Libanswers for triage, say for when I receive an email that would be better answered by someone else but I don't know who.

more practical information

n/an

Closing out questions/knowing when to close out questions can be difficult

can't think of anything

content needs continued updating (not sure if people are putting info into the system since the initial "push"); content needs better quality control (eliminating duplicates, making sure answers follow formatting standards, etc.)

These questions.

Too many steps to sign on. Information is buried.

Need dedicated staff for upkeep and improvement of knowledge base and to integrate more with lib guides, etc

don't use

See above.

Statistic	Value
Total Responses	16

23. Any ideas/recommendations for the future of UMD Libraries email services?

Text Response

Get people to use it more--encourage referrals, so that people get used to answering emails, and rotate reflector members. Sync it up with chat so that off-hours chat comes into the email service and can be answered ASAP when library reopens.

Good answers are important (what separates us, at least for a while, from Google), but speed matters too - even if a quick and tentative answer has to be followed up later. Our most heavily used collections are maybe 80 percent online and available 24/7. If reference service does not reflect that 24/7, it will fade away.

just farm it out to one GA; I'd like to see regular reports of question trends, so guides/webpages/instruction can be improved to eliminate those questions

n/a

Get more people used to the LibAnswers software

seems to be running smoothly

LibAnswers works well, but is time consuming for the librarians involved. Need a better system for handling the triage.

Would be better if it were just a email reasearch@umd.edu...easy to refer students to from chat and promise a response in 24 hours from a subject librarian.

Make it more robust/integrated, and get everyone to answer within the system. Use stats to inform future of system.

None

None at this times

Statistic	Value
Total Responses	11

Appendix C: Chat & Email Reference Statistics

																	Average	Average
Table 1. Hourly Breakdown of Chat Sessions Requested by UMD Users in 2013 (QuestionPoint)																		
	Hour	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Hourly Total**	**Average Academic Year**	**Average Summer**
AM	00:00-00:59	0	0	1	2	0	1	0	0	1	3	5	1	14	1.4	0.3
	01:00-01:59	0	2	0	0	0	0	1	0	0	2	0	0	5	0.4	0.3
	02:00-02:59	0	1	0	0	0	0	0	2	0	1	0	3	7	0.6	0.7
	03:00-03:59	0	0	2	0	0	0	0	0	0	0	1	1	4	0.4	0.0
	04:00-04:59	0	0	0	0	0	0	0	0	1	0	1	0	2	0.2	0.0
	05:00-05:59	1	1	0	1	0	0	0	0	0	0	0	0	3	0.3	0.0
	06:00-06:59	0	1	1	1	1	0	1	0	0	0	1	1	7	0.7	0.3
	07:00-07:59	0	1	0	1	1	1	0	2	1	0	1	0	8	0.6	1.0
	08:00-08:59	3	2	1	1	2	0	2	1	4	0	1	1	18	1.7	1.0
	09:00-09:59	8	1	2	6	5	1	2	3	3	7	5	4	47	4.6	2.0
	10:00-10:59	7	5	4	10	3	8	4	1	10	9	10	3	74	6.8	4.3
	11:00-11:59	5	14	6	4	6	6	4	4	12	6	12	10	89	8.3	4.7
PM	12:00-12:59	4	10	6	3	9	6	4	4	7	13	11	4	81	7.4	4.7
	13:00-13:59	3	11	7	12	9	6	5	6	9	12	13	4	97	8.9	5.7
	14:00-14:59	5	8	13	1	5	6	4	2	11	12	6	4	77	7.2	4.0
	15:00-15:59	6	6	5	5	6	4	3	4	12	12	6	8	77	7.3	3.7
	16:00-16:59	9	10	5	9	3	8	6	3	6	12	13	5	89	8.0	5.7
	17:00-17:59	4	4	2	4	2	3	2	1	7	5	5	2	41	3.9	2.0
	18:00-18:59	1	6	6	3	3	0	1	0	5	7	12	1	45	4.9	0.3
	19:00-19:59	3	0	5	5	3	2	0	2	6	5	5	6	42	4.2	1.3
	20:00-20:59	6	5	2	5	2	1	1	0	5	6	7	2	42	4.4	0.7
	21:00-21:59	1	3	1	2	3	1	1	0	10	8	5	4	39	4.1	0.7
	22:00-22:59	4	7	4	7	0	0	1	0	9	4	7	2	45	4.9	0.3
	23:00-23:59	0	0	2	2	1	1	0	0	2	2	0	3	13	1.3	0.3
	Total	70	98	75	84	64	55	42	35	121	126	127	69	966		

Key	7-10	Most demand	4-6	Moderate demand	1-3	Little/no demand

	Hour	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Hourly Total	Average Academic Year	Average Summer	Queue
AM	09:00-09:59	0	0	0	0	0	0	0	1	0	0	0	0	1	0.0	0.3	
	10:00-10:59	0	0	0	0	1	0	0	0	2	0	0	0	3	0.3	0.0	
	11:00-11:59	1	8	8	3	3	5	3	0	11	10	8	3	63	6.1	2.7	**Academic**
PM	12:00-12:59	2	14	6	7	12	13	16	2	9	12	16	11	120	9.9	10.3	**Everyone**
	13:00-13:59	0	10	3	3	2	3	3	4	7	7	9	5	56	5.1	3.3	**Academic**
	14:00-14:59	1	7	4	3	1	0	0	0	11	15	7	2	51	5.7	0.0	**Academic**
	15:00-15:59	0	3	2	7	1	0	0	0	4	4	2	4	27	3.0	0.0	
	16:00-16:59	0	0	0	1	0	0	0	0	1	1	0	0	3	0.3	0.0	
	17:00-17:59	0	0	0	2	1	0	0	0	0	0	1	0	4	0.4	0.0	
	18:00-18:59	0	1	1	0	1	0	0	0	0	1	0	0	4	0.4	0.0	
	Total	4	43	24	26	22	21	22	7	45	50	43	0	307			

Table 2. Hourly Breakdown of Chat Sessions Accepted by UMD Library Staff in 2013 (QuestionPoint)

Key	7-10	Most activity	4-6	Moderate activity	1-3	Little/no activity

Table 3. Concurrent Chats in 2013 (QuestionPoint)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Average**
Avg. Concurrent Session Requests (Your Inst.)	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Most Concurrent Session Requests (Your Inst.)	4	3	3	3	3	2	2	2	3	4	5	3	3.1

Table 4. 2013 Chat Sessions Recorded in RefAnalytics		
	Hour	Number
AM	09:00-09:59	1
	10:00-10:59	1
	11:00-11:59	26
PM	12:00-12:59	16
	13:00-13:59	20
	14:00-14:59	10
	15:00-15:59	11
	16:00-16:59	4
	17:00-17:59	0
	18:00-18:59	0
	19:00-19:59	0
	20:00-20:59	0
	21:00-21:59	1
	22:00-22:59	2
	23:00-23:59	0
TOTAL		92

Table 6. Patron Types for 2013 Chat Sessions (RefAnalytics)		
Patron Type	93	%
Student	28	30%
General Public	22	24%
USMAI	19	20%
Graduate Student	8	9%
Unknown	8	9%
Faculty	5	5%
Alumni	2	2%
Community Borrower	1	1%

Table 7. Affiliation for 2013 Chat Sessions (RefAnalytics)	
UMD users	47.31%
non-UMD users	52.69%

Table 5. READ Scale for 2013 Chat Sessions (RefAnalytics)	
No Value	53
1	2
2	19
3	8
4	9
5	1
6	0

Table 8. Question Types for 2013 Chat Sessions (RefAnalytics)		
Types of questions	101	%
Basic Research Assistance	42	41.6%
Complex Research Assistance	20	19.8%
Directional/Referral	20	19.8%
Service/Policy	14	13.9%
Technology	3	3.0%
Printing/Copying/Scanning	2	2.0%

Table 9. 2013 Questions Asked through the Ask Us KB (LibAnswers)		
	Hour	
AM	00:00-00:59	14
	01:00-01:59	4
	02:00-02:59	9
	03:00-03:59	5
	04:00-04:59	3
	05:00-05:59	6
	06:00-06:59	5
	07:00-07:59	12
	08:00-08:59	26
	09:00-09:59	33
	10:00-10:59	63
	11:00-11:59	105
PM	12:00-12:59	65
	13:00-13:59	78
	14:00-14:59	97
	15:00-15:59	63
	16:00-16:59	75
	17:00-17:59	60
	18:00-18:59	33
	19:00-19:59	24
	20:00-20:59	18
	21:00-21:59	23
	22:00-22:59	15
	23:00-23:59	20
TOTAL	856	

Key	
70-100	Most demand
40-60	Moderate demand
0-30	Little/no demand

Table 10. 2013 KB Questions by Day of the Week (LibAnswers)		
Monday	175	20.44%
Tuesday	165	19.28%
Wednesday	153	17.87%
Thursday	128	14.95%
Friday	118	13.79%
Saturday	52	6.07%
Sunday	65	7.59%

Table 11. Patron Types for 2013 KB Questions (LibAnswers)		
Graduate Student	187	21.85%
Faculty	175	20.44%
Other	173	20.21%
Undergraduate Student	121	14.14%
USMAI	16	1.87%
No Response	184	21.50%

Table 12. Affiliation for 2013 KB Questions (LibAnswers)	
UMD users	56.43%
Non-UMD users or Unknown	43.57%

Table 13. Turnaround Time for 2013 KB Questions (LibAnswers)		
0-10 minutes	170	20%
10-60 minutes	122	14%
1-12 hours	165	19%
12-24 hours	145	17%
1-3 days	157	18%
3+ days	97	11%

Table 14. 2013 Email Questions Recorded (RefAnalytics)		
	Hour	
AM	00:00-00:59	55
	01:00-01:59	1
	02:00-02:59	
	03:00-03:59	
	04:00-04:59	
	05:00-05:59	1
	06:00-06:59	4
	07:00-07:59	21
	08:00-08:59	178
	09:00-09:59	227
	10:00-10:59	177
	11:00-11:59	242
PM	12:00-12:59	174
	13:00-13:59	176
	14:00-14:59	189
	15:00-15:59	201
	16:00-16:59	153
	17:00-17:59	97
	18:00-18:59	57
	19:00-19:59	36
	20:00-20:59	13
	21:00-21:59	9
	22:00-22:59	4
	23:00-23:59	5
TOTAL	**2020**	

Key	
150-199	Greatest demand
100-149	Moderate demand
50-99	Some demand
0-49	Little to no demand

Table 16. Patron Types for 2013 Email Questions Recorded (RefAnalytics)		
UMD Faculty/staff	625	30.9%
UMD Undergraduate Student	510	25.2%
UMD Graduate Student	398	19.7%
Unaffiliated	383	19.0%
Alumni	32	1.6%
Unknown	15	0.7%
Community Borrower	12	0.6%
USMAI	11	0.5%

Table 17. Affiliation for 2013 Email Questions Recorded (RefAnalytics)		
UMD users	1545	77.8%
non-UMD users	441	22.2%

Table 18. Question Types for 2013 Email Questions Recorded (RefAnalytics)		
Service/Policy	855	42.3%
Complex Research Assistance	618	30.6%
Basic Research Assistance	354	17.5%
Directional/Referral	114	5.6%
Technology	51	2.5%

Table 15. 2013 Email Questions by Day of the Week (RefAnalytics)	
Monday	502
Tuesday	410
Wednesday	404
Thursday	351
Friday	303
Saturday	14
Sunday	36

Table 19. READ scale for 2013 Email Questions Recorded (RefAnalytics)	
0	863
1	156
2	523
3	276
4	134
5	45
6	23

Table 20. Combined Virtual Information Services Activity for 2013 at UMD Libraries*			
Hour	LibAnswers Questions	QP Chat demand for UMD users	Total
00:00-00:59	14	14	28
01:00-01:59	4	5	9
02:00-02:59	9	7	16
03:00-03:59	5	4	9
04:00-04:59	3	2	5
05:00-05:59	6	3	9
06:00-06:59	5	7	12
07:00-07:59	12	8	20
08:00-08:59	26	18	44
09:00-09:59	33	47	80
10:00-10:59	63	74	137
11:00-11:59	105	89	194
12:00-12:59	65	81	146
13:00-13:59	78	97	175
14:00-14:59	97	77	174
15:00-15:59	63	77	140
16:00-16:59	75	89	164
17:00-17:59	60	41	101
18:00-18:59	33	45	78
19:00-19:59	24	42	66
20:00-20:59	18	42	60
21:00-21:59	23	39	62
22:00-22:59	15	45	60
23:00-23:59	20	13	33

Key	
150-199	Greatest demand
100-149	Moderate demand
50-99	Some demand
0-49	Little to no demand

*Email reference done outside of the LibAnswers Knowledge Base is excluded here since the date/time does not reflect when the questions were actually asked.

Appendix D: CIC Questionnaire

The Virtual Information Services Task Force at the University of Maryland Libraries is evaluating our current virtual reference services. In order to make recommendations and changes to our existing services, we would like to know more about our peer institutions experiences providing virtual reference to their users. We would appreciate if you could take a couple of minutes to answer the questions below and we thank you for your assistance.

1. What virtual reference service/software does your institution use?
- QuestionPoint
- LibChat (SpringShare)
- RefChatter (Altarama)
- LibraryH3lp
- Spark
- Other (please specify)

2. How well does this service work?
- Very well
- Well
- Not well
- Very poorly

3. Why did you choose this service/software?

4. Who provides virtual reference services? (Select all that apply)
- Librarians
- Library staff
- Interns
- Graduate student workers
- Undergraduate student workers
- Other (please specify)

5. What impacted your decisions on who provides virtual reference services?

6. Are you part of a virtual reference cooperative?
- Yes
- No

7. When is virtual reference available and why were those times selected?

8. How do you promote virtual reference? (Select all that apply)
- On the library's website
- On the institution's website
- On social media
- With print materials
- During student orientation/first year programs
- Other (please specify)

9. How have you overcome any problems you have encountered with providing virtual reference?

10. Do you have any advice to share based on your institution's use of virtual reference?

Thank you again for your time and consideration.

Appendix E: Chat Widget Examples
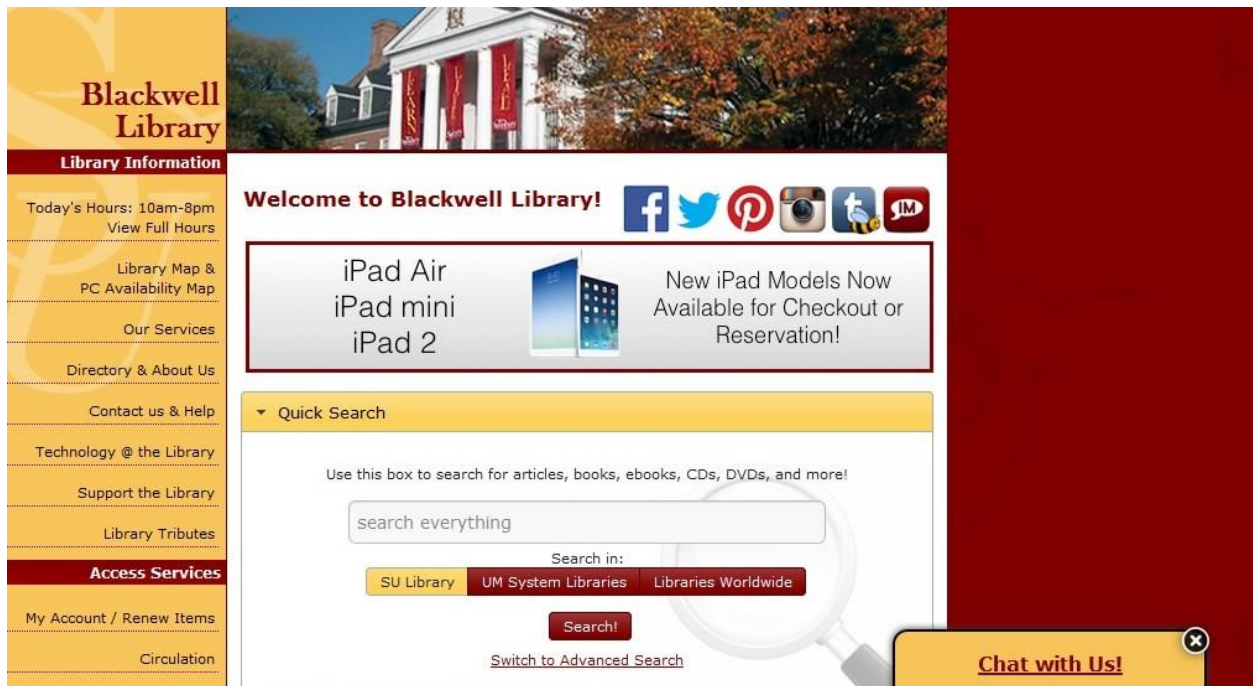
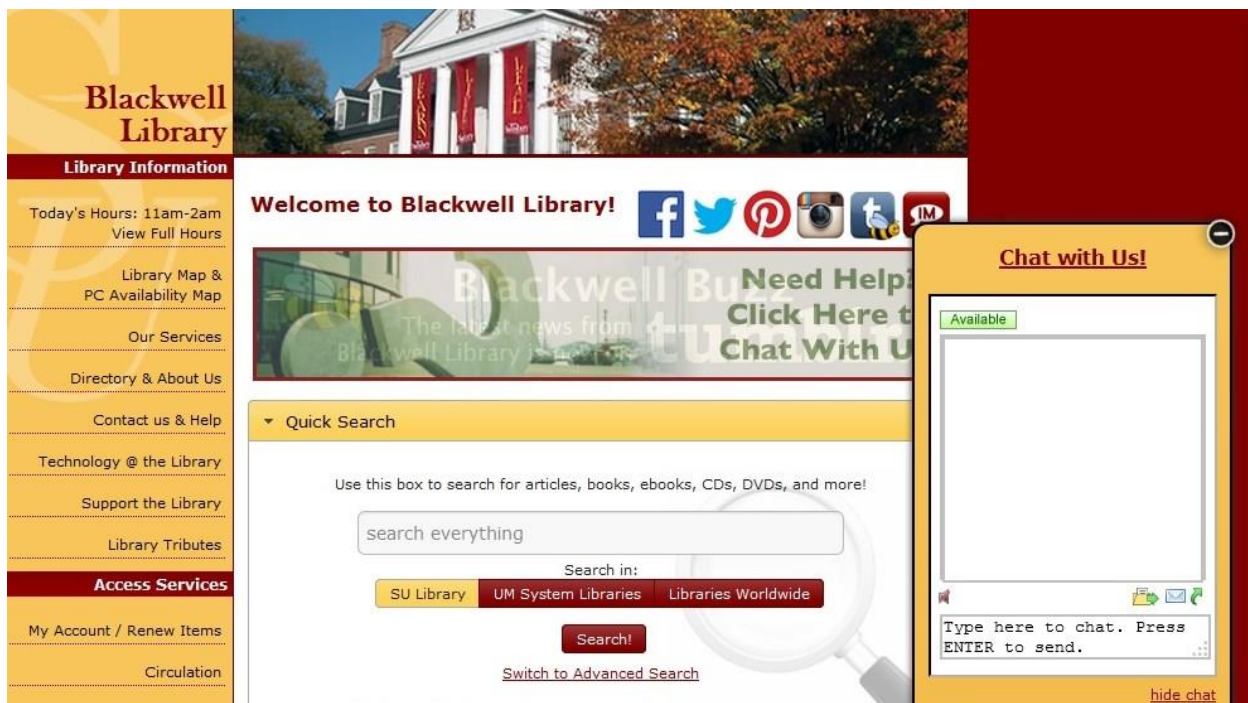**Figure 1:** Widget closed

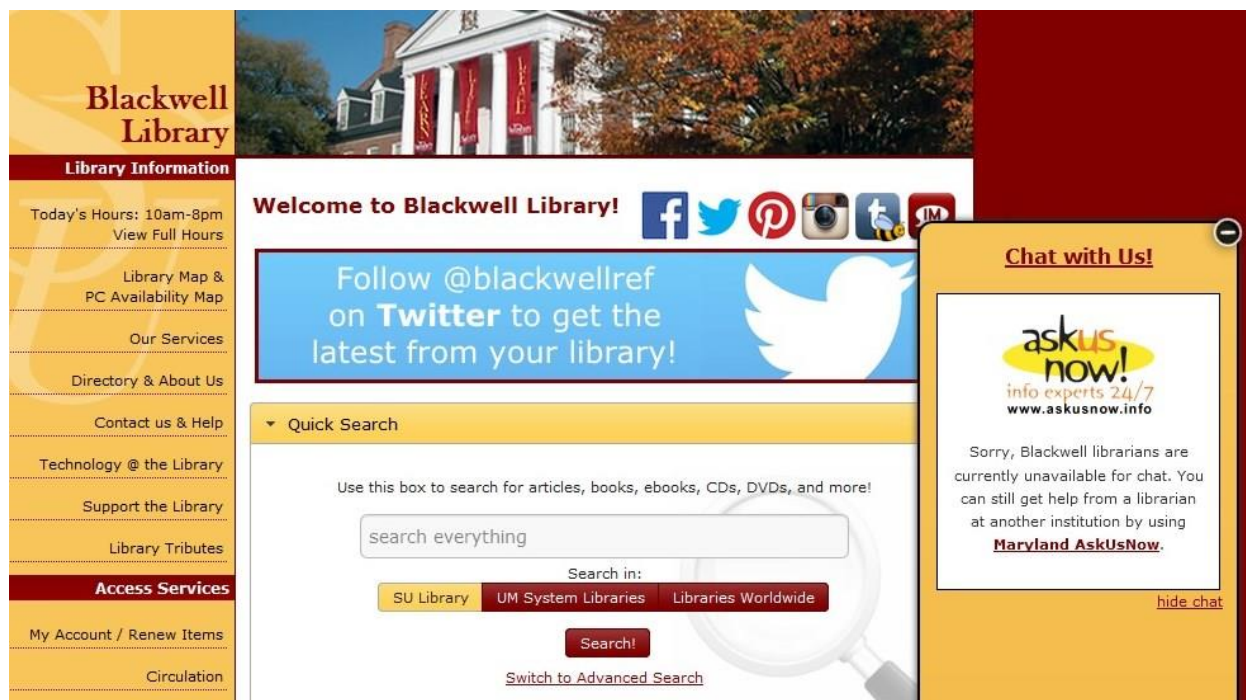**Figure 2:** Widget open with chat operator logged in

Figure 3: Widget open with no chat operator logged in, redirecting to QuestionPoint

*Screenshots taken from Salisbury University's Blackwell Library website -
http://www.salisbury.edu/library/

Appendix F: Bibliography

There is a wealth of resources on all aspects of virtual reference. Research includes: history of virtual reference, amount of use, user satisfaction, marketing needs, staffing, new technologies, implementation and best practices/guidelines.

The following databases were searched:
- Academic Search Premier
- Computers and Applied Sciences Complete
- ERIC
- Education research Complete
- Library and Information Science Source
- Library, Information Science and Technology Abstracts

Search strategies included:
- "virtual reference"
- "virtual reference" = subject
- "virtual reference" and academic
- Limiting years to 2011-2014

The following are some good resources focusing on staffing, new technologies and guidelines.

- Bielskas, A., Dreyer, K. M., & Library and Information Technology Association (U.S.). (2012). *IM and SMS reference services for libraries*. Chicago : ALA TechSource. Book available at McKeldin Library http://umaryland.worldcat.org/oclc/781432074

  Covers all aspects of implementing an IM or SMS service in a library, including planning, staffing, guidelines and marketing.

- Nicol, E., & Crook, L. (2013). Now it's necessary: Virtual reference services at Washington State University, Pullman. *Journal of Academic Librarianship*, 39(2), 161-168. doi:10.1016/j.acalib.2012.09.017 Available at http://bit.ly/1k7eauY

  "While virtual reference services (VRS) are becoming more and more common in academic libraries, implementing and maintaining well-used and effective VRS can be a challenge in the face of competing demands on time, staffing, and funding. Between 2011 and 2012, librarians at Washington State University, Pullman (WSU) have overhauled and reorganized VRS, committing more time, money, and energy to VRS than ever before. While past experiences with VRS at WSU Pullman have been mixed, data collected from recent years shows that the decision to prioritize VRS was worth it, leading to a vital and rapidly growing service. VRS at WSU shows sizable increases in usage between 2010 and 2012, indicating that VRS is now a necessary part of the WSU Libraries' mission to best serve their community of users."

- RUSA. Guidelines for Implementing and Maintaining Virtual Reference Services Approved by the RUSA Board of Directors, March 2010. Available at http://bit.ly/1k7eg5P

  Covers the purpose; definition; preparation (including commitment, costs, planning, software, collection development and assessment); provision of service (including clientele, service parameters, staffing, service behaviors, collaboration, and scheduling); organization (including integration, infrastructure/facilities, finances, marketing and evaluation/improvement) and privacy.

- Thomsett-Scott, Beth C., Library and Information Technology Association. Implementing Virtual References: A LITA Guide. Chicago: ALA TECHSOURCE, an imprint of the American Library Association, 2013 (e-book) http://bit.ly/1hufOSO

  "Information on staffing, training, and assessing the services is provided to offer a full range of knowledge about virtual reference services."

- Vecchione, A. & M. Ruppel. "Reference is Neither Here Nor There: A Snapshot of SMS Reference Services." Reference Librarian, 53.4 (2012): 355-372 http://bit.ly/1hugMP2

  "This article presents results from an anonymous, non-scientific, Web-based poll that aimed to learn more about how libraries and their user groups are using short messaging service reference. The results of this survey present the perspectives of librarians regarding short messaging service reference and will help libraries decide whether to offer this service and learn the best practices. Although short messaging service reference can be easily implemented and has the potential to reach a large user base, libraries face barriers to offering short messaging service reference. These results present librarians' experiences of implementing this new reference tool."