VIRTUAL REFERENCE SERVICES: *ASK A LIBRARIAN* USING QUESTION AND ANSWER (Q&A) WITH A REAL-TIME SYSTEM

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Abstract: A virtual reference service is a service where librarians and users can communicate with eachother in real time over the Internet. This study aims to analyze the virtual reference service 'Ask a Librarian' as a service with a real-time system, which is one of the library strategies for providing reference services to users without limited space and time. This study uses a qualitative approach. This article is based on literature studies that support the subject. The study result shows that the virtual reference service 'Ask a Librarian' makes it easy for reference librarians to provide information on user questions remotely, the quality of the information on this feature is very credible and quality because user questions about any library information are answered directly by the local reference librarian. With the real-time system used in this service, the completion time of activity, responsiveness, or latency is an important aspect of system quality. The presence of these services is expected to provide reference services to users without space constraints in a short time.

INTRODUCTION

In today's digital era, the rapid development of technology allows individuals to easily access the information they seek. However, the impact of the rapid development of this technology makes a lot of information available is not following what individuals need because a lot of information that not credible and not qualified widespread. This is where the library as one of the institutions providing information plays an important role in providing and providing information that is credible and quality. One of the library services that has the function of reference information that matches the needs of the user is a reference service.[1]

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[1] Mezan El-Khaeri Kesuma, Irva Yunita, and Mutiara Cahyani Putri, "Penggunaan Sistem Klasifikasi Di Perpustakaan Daerah Provinsi Lampung Sebagai Bentuk Peningkatan Pengelolaan Perpustakaan," *Baitul*

The library reference service is a reference unit where there is a bookmark and recommendation function as well as information for library users according to their information needs. To perform the function, the reference librarian's position is always filled with well-informed librarians who can efficiently handle users.[2] Furthermore, Janes captures the essence of reference services in quotes from Margaret Hutchins[3]: "Reference services include direct and personal assistance within libraries directed to persons seeking information for any purpose, Referral service alsorefers to various library activities specifically aimed at packing information so that it can beas easy as it might be understood by users". Certainly, with the development of information technology, reference services always follow its development with improvements in information technology. The goal is to make information more accessible to users. Referral to reference services is also reflected in the reference service orientation that Janes describes as a "desire" to help people.[4]

Successful reference transactions require a high level of visibility. In response to current technological developments, reference services should also be available through various technologies as per the customer's requirements. To be able to have a successful reference service, it is important to reference librarian approach. Whether acting in a traditional/ private role or a remote/ virtual role, the librarian's first step in starting a reference transaction is to make the user feel comfortable away from situations that can be considered intimidating, confusing, or superfluous. Librarian's initial response in reference transactions is important to note, it will affect communication, and affect the depth and level of interaction with users.[5]

Libraries should be readily adhering to the times, as current users will prefer to visit the library which provides convenience and convenience to them in accessing information. So thereis no reason that the library can not meet that need. By becoming

'Ulum: Jurnal Ilmu Perpustakaan Dan Informasi 5, no. 2 (2022): 85–96, https://doi.org/10.30631/baitululum.v5i2.108.

[2] Olugbenga Ademodi, "Reference Service in Academic Libraries: Accommodation of International Students," *Library Philosophy and Practice*, 2011.

[3] Joseph Janes, "Academic Reference: Playing to Our Strengths," *Portal* 4, no. 4 (2004): 533–36, https://doi.org/10.1353/pla.2004.0067.

[4] Ibid.

[5] Trix Bakker, "Virtual Reference Services: Connecting Users with Experts and Supporting the Development of Skills," *LIBER Quarterly* 12, no. 2 (2002): 124–37, https://doi.org/10.18352/lq.7676.

digital, adopting the Internet is not just a source of information, but a means of extending the current services to new users.[6]

It's not a new thing to hear about a digital library, where libraries can be accessed whenever and wherever providing digital collections and virtual services. As time goes by as technology advances, conventional libraries evolve into digital libraries, as well as library services, conventional reference services evolve into virtual reference services.[7] The digital library provides a virtual service feature that can connect users with collections as well aswith librarians, so users do not have to come to the library to search, but they can come only to find.[8]

One of the virtual services of libraries is a virtual reference service, a library reference service over the internet that can connect users with librarians in real-time for Question and Answer, virtual reference services allow users to ask questions and receive library-related answers erratically. The quality of information to be obtained by users is credible information because user questions about any library information are answered directly by the local reference librarian. The virtual reference service can be via e-mail, chat, or instant messaging, one of the most popular virtual reference services is the 'Ask a Librarian service.[9]

Based on research on reference service strategies in libraries, it was found that virtual reference services are one of the library strategies in providing reference services. Furthermore, the library can provide reference services in the palm of the hand so that reference services are not abandoned by readers. Because today's users will prefer to visit a library that makes it easy for them to access information. So there is no reason the library can not meet these needs. By going digital, the adoption of the Internet is not just a source of information, but a means of extending current services to new users.[10] This research

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[6] S E Moeller, "Ask-A-Librarian: An Analysis of an e-Mail Reference Service at a Large Academic Library," *Internet Reference Services Quarterly* 8, no. 3 (2004): 47–61.

[7] Brenda Reeb, "Internet Reference Services Quarterly: Editorial," *Internet Reference Services Quarterly* 14, no. 1 (2009): 1–2, https://doi.org/10.1080/10875300903014863.

[8] John A Stankovic, *Misconceptions about Real-Time Computing* (IEEE Computer, 1988).

[9] K H Jung and Y S Kim, "A Study of Collaborative Online Knowledge-Information Service Management: A Plan for Improving the Ask a Librarian Service," *Journal of Korean Library and Information Science Society* 40, no. 1 (2009): 133–55.

[10] S E Moeller, "Ask-A-Librarian: An Analysis of an e-Mail Reference Service at a Large Academic Library," *Internet Reference Services Quarterly* 8, no. 3 (2004): 47–61.

focuses on the 'ask a librarian' virtual reference service which is a quite popular feature adopted by several libraries on their website.

The 'Ask a Librarian' service is an interactive service that connects users with reference librarians without limited space and time, easily presented and makes it easy for the user to get referrals from librarians without having to think about limit space and time. Libraries that decide to adopt this feature on their website should be able to truly commit to providing services to users, providing up-to-date information references to any user-submitted questions.[11]

THEORETICAL SUPPORT

1. Reference Service

The Reference Service is a service that assists library users to find information by answering questions using reference collections and providing guidance on finding and using reference collections. A reference service or information service is aprocess of helping users identify sources of information to answer specific questions, interests, and tasks/ issues. In addition, a reference service or often also referred to as a reference transaction. According to RUSA (Reference and User Service Association), reference transactions are information consultations where library staff recommends, interprets, evaluates, and/ or uses information resources to help others meet specific information needs. Reference transactions do not include formal instructions or exchanges that assist with location, schedule, equipment, inventory, or policy statement.[12]

In addition, according to the National Center for Education Statistics (NCES), reference transactions are information contacts, involving knowledge, use, recommendations, interpretations or instructions in the use of one or more sources of information by a librarian. This includes information and referral services. Sources of information include printed and non-printed materials, machine-readable databases, catalogues and other ownership records, and, through communications or referrals,

[11] Kyong Hoon Kim, Anton Beloglazov, and Rajkumar Buyya, "Power-Aware Provisioning of Cloud Resources for Real-Time Services," in *Proceedings of the 7th International Workshop on Middleware for Grids Clouds and E-Science, MGC'09 Held at the ACM/IFIP/USENIX 10th International Middleware Conference* (Illinois: Urbanan-Champaign, 2009), 1–6, https://doi.org/10.1145/1657120.1657121.

[12] Joo-Bun Park and Dong-Youl Jeong, "An Empirical Study on Web-Based Question-Answer Services," *Journal of the Korean Society for Information Management* 21, no. 3 (2004): 83–98.

libraries and other institutions and people inside and outside the library. Requests can come alone, or by phone, fax, mail, or electronic mail.[13]

2. Virtual Reference Service

Today, in the digital age, the internet is not just a technology, the internet has become a part of life. According to Tao in Restanti, the use of the physical library has shifted to an online format 'within the network' resulting in reduced transactions on the reference services.[14] By understanding that the internet is already a part of the life of the present generation, libraries must actively follow the changes that take place. This is one way to stay close to the user by providing a virtual reference service.

The virtual reference service refers to a service that allows librarians and users residing in different rooms to communicate with each other in real-time via the Internet via e-mail, chat or instant messaging which is currently a hot topic in the library. On the one hand, the commercial sector has challenged the reference function by offering Q & A services. For librarians, this is a threat and an opportunity. They can benefit from the technology and service models that are developed and then adapt them to virtual reference applications that will be more effective in meeting library needs through the media Web site.

In a virtual service, where its users are potentially very large, and enormous information environment, customers can find what libraries can do very effectively. The virtual reference service is an electronic reference service, where customers use computer equipment and other technologies to communicate with reference librarian staff without tphysically meeting (RUSA, 2010). By presenting this virtual reference service the library provides services seven days a week and 24 hours a day as well as libraries can extend services to the user community without being limited space and time.

3. Real-Time System

Real-time systems have time limits ranging from microseconds to hours, but the time constraints tend to be quite precise. A library service that declares its services as a real-time service must be committed to providing service to its users in a short time. Real-time systems are defined as systems in which the truth of a system depends not only on

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[13] Suzanne M Gray, "Virtual Reference Services: Directions and Agendas. Reference & User Services Quarterly," *American Library Association* 39, no. 4 (2000): 365–75.
[14] Restanti, "Layanan Referensi Virtual: Sebuah Strategi Jasa Layanan Referensi Di Perpustakaan."

the logical outcomes of computing but also on the time when the results are produced.[15] A real-time system is an information processing system that must respond to externally generated input stimuli within a limited and determined period. Function and timing must be predictable (response time). However, keep in mind that real-time systems are not fast-running systems.

There are two real-time systems; first, Embedded Systems are computer systems designed for special control functions in larger systems. Often with real-time computing constraints. This device is embedded as part of a complete device that often includes hardware and mechanical components; second, Distributed systems consist of a collection of autonomous computers, connected through a network that allows computers to coordinate their activities and share resources. Distributed systems are needed for reliability (redundancy), in addition, due to physical limitations and for efficiency (resource sharing).[16]

4. 'Ask a Librarian'

Ask a Librarian is a virtual reference service feature that has been around the internet for the past few years. This feature connects with a professional librarian/ librarian at local libraries, easily found usually on the library's home page. Generally, this service uses a real-time system, where the time of completion of activities, responsiveness, or latency is an important aspect of system quality.[17] The Ask a Librarian service is all virtual reference services that can be live chat, text messaging, and e-mail.

METHOD

The type of research used is a literature study. The literature study method is a series of activities related to methods of collecting library data, reading and taking notes, and managing research materials. The data used comes from textbooks, journals and websites related to the "ask a librarian" virtual reference service. so that the study in this study has an in-depth and measurable explanation of the question or problem being studied.

RESULT AND DISCUSSION

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[15] J Dollimore G. and T Kindberg, *Distributed Systems---Concepts and Design, 2nd. 2nd Ed* (Boston: Addison-Wesley Publishers Ltd, 1994).
[16] Ibid.
[17] P A Choukimath, M A Angadi, and M M Koganuramath, "Employing `Ask a Librarian' Virtual Reference Service at TISS Library, Mumbai," 2012, 1–2.

The virtual reference service refers to a service that allows librarians and users residing in different rooms to communicate with each other in a real-time. Real-time systems have time limits ranging from microseconds to hours, but the time constraints tend to be quite precise. A library service that declares its services as a real-time service must be committed to providing service to its users in a short spend of time. By presenting this virtual reference service the library provides services seven days a week and 24 hours a day as well as libraries can extend services to the user community without being limited space and time. in a real-time system with the internet via website, e-mail, chat or instant messaging which is currently a hot topic in the library.

Following the development of technology, in providing virtual services, some libraries use more websites. On library websites, generally, various virtual services from the library are provided, one of which is a reference service. A fairly popular virtual reference service - but not all libraries provide this kind of reference service feature - is a librarian ask service, it's a virtual reference service feature embedded in the library's official website, with this feature allowing users to communicate in real-time with a local librarian.

The use of real-time systems in this 'Ask a Librarian' virtual reference service provides librarians with demands to provide output or respond to externally generated input stimuli within alimited and determined period. The primary key in the use of this real-time system is the response time, while the key to the success of this librarian-ask service is the initial response in response from the librarian to the user.

It is said that the key to the success of the librarian ask service is the librarian's initial response when responding to user input, meaning that the librarian's initial response to a reference transaction is important to note, as it affects communication, and influences the depth and level of interaction with users. It is again reminded that the librarian's first step in starting a reference transaction is to make the user feel comfortable away from situations that can be considered intimidating, confusing, or superfluous. To create such a situation, thisis where the librarian's initial response in response to input is essential.

One example of virtual reference services can be observed from the Ask a Librarian service on the Florida Library website [https://askalibrarian.org]. The 'Librarian Ask' service in the Florida Library provides a virtual reference service via live chat, text messaging and e-mail, all of which are services that use real-time systems, the time specified for this service is from 10 am to midnight on the day Sunday to Thursday, and

from 10 am to 5 pm for Friday and Saturday. The Florida Library's Ask a Librarian reference service has the slogan "Because search needs superheroes!", Librarians are wested as superheroes who can provide the truth in the search for information. The ability to engage customers in real-time chat sessions using a convenient and intuitive user interface provides libraries and users with a competitive edge in the fast-paced Web world. This service software allows libraries to generate robust and on-demand statistics to assist them in planning and developing local services.
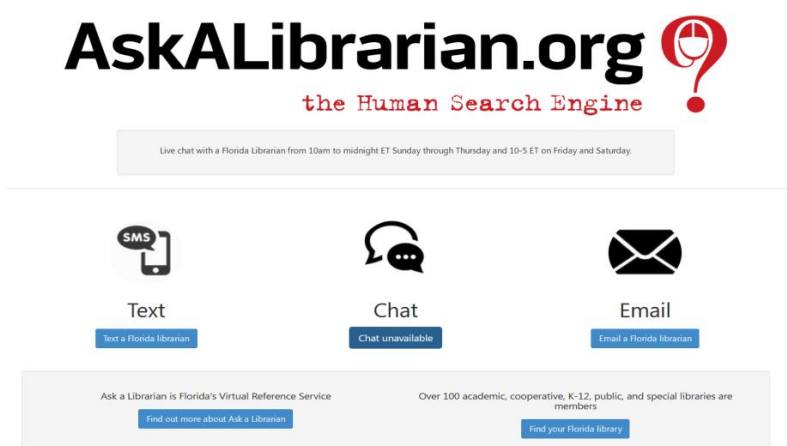

Figure 1: Web Page Ask a Librarian (Source : https://askalibrarian.org/)

The good thing about the library librarian's ask service is the initial response given by thelibrarian. Focus on the live chat feature, the friendly impression will be instantly we get when wejust start clicking the live chat option, direct in greeting message–maybe it's a robot message that has been designed to appear every time a user chooses this live chat feature–in addition, librarians also introduces himself, and says that do not hesitate to ask him, a good initial response makes the user more comfortable in relaying what information is needed and a goodinitial response also builds a live stress chat app where it is convenient. In addition to the initial response, response time from the service Ask a Librarian live chat is also quite short and does not require a long time to obtain the information we need. In addition to asking about Florida libraries, users can also ask for anything as long as the librarian can provide the answer. However, in case the librarian can not provide related answers, he will provide a reference to where we should seek answers from other sources.

Equally virtual Ask a Librarian service, e-mail and live chat both provide an opportunityto ask a question remotely. Email is available to users 24 hours a day, seven days per week, and all mail is answered by a local librarian, but to get an email reply

needs to wait a while. Ifcompared with e-mail, the live chat feature is the right choice if you want to get an answer as soon as possible. However, to obtain real-time interactive services from live chat or text messaging features determined by the service hours, this feature is not available for 24 hours, they have certain service hours. Both have disadvantages and advantages of each, depending on the user to decide which type of virtual reference service they will choose.

For libraries, providing virtual services such as 'ask a librarian' is a decision that needs to be considered before actually providing a virtual reference service feature of this. By deciding that the library will provide virtual services, the library must be fully committed to the virtual service, committed to continuing to interact with customers in their chosen fashion, and committed to having a good time behaviour. The virtual reference service is a service that aims to provide the user with ease, if a bad virtual reference service creates a stressed user, then it would only worsen the image of the library.[18]

CONCLUSION

The 'Ask a Librarian' service is an interactive service connecting users with readers. Virtual customers with conventional customers are both customers who need precise and accurate information. Web and virtual references provide a library of powerful tools to serve customers. Whether placing catalogues on the Internet or virtual reference services via websites, e-mail, or instant messaging, libraries must be fully committed to virtual customer service, which interacts with customers in their chosen mode.

'Ask a Librarian' is a library virtual reference service where the primary key in the use ofthis real-time system is response time, while the key to the success of this librarian asks service is the initial response in response from the librarian to the user. With the real-time system used in this service, the completion time of activity, responsiveness, or latency is an important aspect of system quality. The presence of these services is expected to provide reference services to users without space constraints in a short time.

Turning to the online world is not as scary as it once was. With increasingly diverse Internet connectivity, having an online service is a breeze. Here, the hard part is trying to

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[18] David R Lankes, *Building's Successful Customer-Service Culture: A Guide for Library and Information Managers*, ed. M J. Melling and Litte (London: Library Association Publishing, 2002).

commit to the chosen virtual service. It does not have to be a fully digital library, however, it would not hurt to try to bring a good virtual service. Do not hesitate online to attract users to your building. Online to make the online world better.

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