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Music Across Campus: a Study of Streaming Technology Use in Iowa Academic Libraries

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by Elizabeth J. Cox

ABSTRACT: This article looks at the use of streaming audio in a small subsection of academic libraries. The results of a survey are presented, in addition to a brief review of the library literature. The issues of adding a streaming technology program include computer hardware and software, funding, access, feedback, copyright, and local policy.

KEYWORDS: streaming, audio, academic libraries

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INTRODUCTION

In the spring of 2004, Rebecca Stuhr, Collection Development & Preservation Librarian at the Grinnell College Libraries, and the author, then the Listening Room Supervisor at Grinnell College, gave a presentation on streaming audio at the Iowa Library Association's chapter of ACRL (ILA/ACRL), at which we described the process of making streaming audio available to students and faculty at Grinnell College. After the presentation it was surprising to discover how few libraries were making this new technology available, because at Grinnell, the students and faculty were very enthusiastic about it. Of the approximately 20 schools represented at the presentation, only two others were already offering streaming.[1] I spent a good amount of time after our presentation talking with other librarians informally about this service and encouraging them to make streaming available at their libraries. Now, over a year later, I was curious to see if those conversations had any impact.

The purpose of this article is to briefly define streaming audio and describe its usage, present how streaming audio has been described in the library literature, and present the results of a survey of academic librarians in Iowa regarding their utilization of streaming audio. The intent of this brief survey is to give a snapshot of streaming audio usage in a small part of academia. Although some libraries also offer streaming video, the focus of this article is on streaming audio offered in-house, rather than any of the subscription-based resources, such as Naxos Digital Library.

STREAMING AUDIO: DEFINITION & USAGE

One of the first questions asked about streaming audio is how streaming works. A good, simple definition is: "Streaming media is delivery of continuous audio, video, and/or text over the internet. The media is fed to the user as the media is viewed. In other words, it's a continuous transaction."[2] A major component of streaming audio that is only implied by this definition is that these audio files are never wholly stored on the user's own computer, a necessity for compliance with copyright law.

A common usage of streaming audio by libraries is for reserves, but there are other possibilities for usage as well. At Grinnell College, for example, locally-made recordings of the college song and the fight song are available through streaming technology for anyone to hear.

LITERATURE REVIEW

Current articles in the area of streaming audio focus on defining streaming technology, on what initiatives individual libraries have implemented, on streaming audio as a part of an electronic reserves program, or, more generally, on the copyright issues involved. Streaming audio has been a viable format since 1995;[3] many of the initial articles and books have been written and/or published by individuals outside the library profession, especially in computer journals.[4] Many of these discuss the more technical aspects of streaming audio as well as offering product reviews.[5]

In one of the first library-specific articles on streaming audio, Gloria Rohmann not only discusses what streaming audio is and how it works, she explains how this up-and-coming technology benefits libraries and media centers.[6] According to Rohmann, streaming technology can benefit libraries in a number of ways, such as "for storage and delivery of classroom lectures,

to webcast campus events, and to provide access to audio materials in archives and special collections." She also includes a list of vendor websites, product reviews, and examples of real-life applications in academic libraries.[7]

A search of the library literature revealed four articles describing implementation of streaming audio programs by individual libraries.[8] Three of these articles deal primarily with the infrastructure needed to set up a streaming audio program, emphasizing the hardware and software required. The fourth article, by Maple and Henderson, deals with a wider range of topics, including infrastructure, such as collections and staffing, at Pennsylvania State University. They also discuss problems met and their solutions.[9] The experiences of Penn State described in their article are used in this study to measure against the activities of Iowa libraries.

Many books and articles have been written in the last five years on electronic reserves, but surprisingly, very few discuss streaming audio. When it is included, the focus usually turns to copyright.[10] Three library organizations have published statements regarding fair use and electronic reserves: the Association of Research Libraries (ARL), the American Library Association (ALA), and the Music Library Association (MLA).[11] Of these, only MLA deals specifically with streaming. In its statement MLA supports "the creation and transmission of digital audio file copies of copyrighted recordings of musical works for course reserves purposes," as long as libraries follow the conditions listed in the statement.[12] These conditions include limited access through library equipment and user authentication, music taught only in the course, ownership of the original item by the library or professor, and removing access at the end of the semester. However, the guidelines also allow for digital copies of entire works and storage of files for future re-use.[13] While these statements by no means constitute the "law",

many libraries cite these statements, especially the MLA's, when justifying their streaming audio electronic reserves projects.

Many library electronic discussion lists have seen debates regarding streaming audio use for electronic reserves. One of these was on AMS-L, the electronic discussion group for the American Musicological Society, which was summarized and reposted on MLA-L in October 2000 by Darwin Scott.[14] Much of this discussion revolved around the needs and wishes of academics versus the recording industry. In one e-mail from this discussion, Mark Clague, executive editor of MUSA: Music of the United States of America, stated, "In the case of online listening for instructional use, record companies would prefer a restrictive interpretation, while teachers would prefer a more generous one."[15] In summary while there is not a lot of literature on the use of streaming in libraries, there are worthwhile reasons to add streaming to a library's technological suite, foremost among them providing audio through electronic reserves.

Many of these articles are five to ten years old. The most recent article specific to the use of streaming audio in libraries is from 2003. Richard Griscom discusses a range of issues in creating a digital audio library, from computer hardware and software needs to copyright to staffing and other costs.[16]

METHODOLOGY

A survey was created to gauge whether and how, if at all, academic libraries in Iowa use streaming audio technology. Utilizing a standard web-based input form, including standard radio buttons, check boxes, and text blocks, responses were gathered in the Southern Illinois University Instructional Support Services' survey generator, provided under open-source licensing by Virginia Tech University.[17] Results were then compiled and analyzed.

The survey, included as an appendix to this article, was distributed as a link via e-mail in December 2005 to the directors of 56 academic libraries in Iowa. The survey was sent to one contact per institution, even if the institution had multiple branches and multiple libraries. The list of institutions and directors, also included in the appendix, was originally acquired from the website of ILA/ACRL[18] and further verified by visiting each institution's web site.

A first reminder for the survey was sent at the beginning of January 2006. This reminder included an additional note: "If your library is not using streaming media, your response to the survey will still be useful." A second reminder was sent at the end of January 2006.

SURVEY RESULTS AND DISCUSSION

Survey responses were received from thirty-one institutions, a return of 54%. The majority of respondents, 27 (81%), do not currently offer streaming audio or video. This group was asked if they had any definite plans to do so in the future. Twenty-five (93%) responded, with only five (20%) indicating that they have either definite plans or extreme interest. One library noted, "We applied for funding for a server to stream audio to be implemented 2005-06. Our request is on hold by IT services."

An e-mail, sent to twelve people who agreed to receive follow-up questions, asked, "According to your survey response, you are not currently offering streaming audio or video. Why is that? Funding issues? No interest? If you are considering adding this service, why have you not yet?" Five responses were received. The majority cited lack of adequate equipment and lack of interest by their information technology (IT) departments as the main reason for not having any streaming audio or video program. Lack of staff and lack of time were also

mentioned as obstacles. Although funding was not directly mentioned, it is certainly an underlying issue behind all of the reasons given.

Four of the responding libraries (13%) reported currently offering streaming audio and/or video: one small undergraduate college, one community college, and two public universities. This response is extremely small, and it is impossible to draw any conclusions from these responses. However, the experiences of these libraries can serve as a starting point for libraries beginning to look at this technology. Their responses to the majority of the questions in the survey can be broken up into four groups: technical aspects; funding; access and feedback; and copyright and policies.

TECHNICAL ASPECTS

When asked which hardware and software each institution used, the answers were mixed, although the software package Soundforge was mentioned twice. Penn State's Digital Music Library uses the RealNetworks streaming server and software. In their article, Maple and Henderson go into more depth about the hardware and software specifics as well as problems that they faced at the beginning of their project, such as adapting to campus network and off-campus connection bandwidths.[19]

Respondents were asked where patrons access the streaming files. Three said they used Blackboard, WebCT, or a similar product; two said the files were accessed through the library's online catalog; one made the files available through the course website; and two mentioned having access through the music library websites.

For the most part, however, all hardware and software mentioned appeared to be primarily PC-based, as opposed to MAC-based. Conversely when this particular choice was researched at Grinnell, one IT colleague suggested that, when choosing the platform for the

streaming server itself, UNIX would be his first choice, then MAC, with PCs being the last choice, because, in his opinion, UNIX and MACs handle audio files better than PCs. At Grinnell a MAC OS X streaming server was selected as the base hardware, with Quicktime Pro for the main software. The main decision behind this choice was that the campus provides both PCs and MACs to students in the public computer labs, and a software program that was easy for staff to learn and usable on both types of computers was necessary.

FUNDING

Maple and Henderson discuss how they began their Digital Music Library at Penn State and observed that, as with any new project, especially one this technologically extensive, funding is an issue. They state, "While there are many issues involved with the creation of a digital music library, three emerge as both critical and comprehensive: infrastructure, collections, and staffing. Pervasive within all three categories is the question of funding."[20]

When asked, "How have you funded the additional hardware, software, and personnel for streaming?", all four respondents chose, "Tasks absorbed by current staff and/or resources." Of the four, one mentioned that their library also received grant money for hardware and software. Because so many libraries, both public and private, face budget cuts each year, this one issue highlights why more institutions are not using streaming audio. Although there are many benefits to both students and faculty, there is a significant cost in purchasing the hardware (either a stand-alone computer or streaming server, possibly audio equipment solely for this use), the software (such as Soundforge and RealMedia), plus the training involved in learning to turn sound files into streaming files and to make the files available to the students.

ACCESS & FEEDBACK

Librarians have realized since the early years of offering streaming audio that this service is beneficial for students, faculty, and even librarians. Leo Robert Klein mentions in his article how this affects students accessing course reserves and our desire as librarians to assist these students to the best of our ability. "Come midterms or finals week and competition for these discs can become fierce. How much better simply to point the students to a password-protected page on the library's web site where all the material is listed and to allow them to access this material according to their own needs and schedules?"[21]

When asked to describe the responses they have received from faculty and students, all four Iowa libraries reported a very positive response, using such words as "enthusiastic," "appreciate," and "relieved." One noted that students appreciate being able to access their listening assignments at anytime from almost anywhere. Another noted that the students appreciate not having to fight other students for access to these materials, since through streaming, they are accessible by multiple users. Faculty also like the service although, as one person noted, "They love it, as long as everything magically appears as soon as possible and there aren't any technical glitches that sometimes pop up."

COPYRIGHT & POLICIES

A faculty member may ask, "Why would I want to stream these items, when I can download them myself and have my students do the same?" The answer is simple: copyright law. As mentioned previously, in streaming technology, the file is never completely stored on the user's computer.

Librarians must limit some access in order to abide by copyright laws. Respondents were asked how they limit access to streaming audio files. Three password-protect the files, giving access to class members only; two password-protect the files, allowing access to any college or

university person; two allow off-campus access through a proxy server; and one allows on-campus access to files. Respondents were also asked if users can download the streaming files; all four replied no.

Respondents were divided half and half as to whether they will limit the number of works to be streamed and how much of an individual work will be streamed. One indicated, "Will not stream complete operas, will stream movements of standard classical pieces or sections of operas." Another responded, "We will stream only legally obtained [material.]" All four respondents answered that they would only stream items held in their own collection.

Libraries were then asked how they address copyright with regards to streaming, generally. The answers were varied, but three respondents mentioned laws or guidelines that are widely recognized: Fair Use Guidelines, TEACH Act, and the MLA guidelines mentioned previously. At Grinnell a decision was made that the Fair Use Guidelines and MLA guidelines were adequate to support the use of streaming audio, even though the MLA guidelines are not legally binding.

Finally, respondents were asked if they have a written policy on streaming. All four answered yes, although one noted that the policy was that of the institution as a whole, not just the library.

CONCLUSION

While disappointing, it is not surprising that so few academic libraries in Iowa offer streaming audio and/or video. So many libraries feel the financial crunch that adding a new product or service is difficult if not impossible. The four Iowa academic libraries currently offering streaming audio have shown that at least some of the work can be absorbed by existing

staff. Other libraries might consider alternative funding options, such as grant writing, to make

this service available to their patrons.

Need is an issue as well. At Grinnell College, a residential campus, there was concern

that this technology would not be needed or wanted by the students as they had easy access to the

library. However, the feedback was extremely positive, as many students appreciated the

opportunity to access these materials at any time of the day or night without having to venture

out of their rooms.

Streaming audio is obviously popular at institutions that are using it. Streaming

technology is an excellent tool that allows librarians to continue their work in assisting students

and faculty, and options for making it available need to be found.

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APPENDIX 1

MUSIC ACROSS CAMPUS :

SURVEY OF IOWA ACADEMIC LIBRARIANS

Thank you for participating in this survey.

As a Library Affairs faculty member at Southern Illinois University and former staff member at Grinnell College, my goal is to gather information as to how academic libraries in Iowa use streaming, as a follow-up to a presentation at ILA/ACRL in April 2004. The presentation, "Music Across Campus: Making Streaming Technology an Integral Part of the Curriculum at Grinnell College," was given by myself and Rebecca Stuhr.

The information collected will be analyzed to assess the level of streaming media usage, what limitations are used, how copyright is handled, and how streaming media has affected in-house usage of materials. All information gathered from this survey will remain confidential, and all subjects remain anonymous.

I will review the survey results and other relevant information to gain insights about the streaming usage of Iowa's academic libraries. I plan to publish the results of this study.

1) Please enter your name, title and institution. (This information will be kept confidential.)

2) Are you currently offering streaming audio and/or video?
☐ Yes   ☐ No

2a) If yes, please enter the month (if known) and year begun.

2b) If no, do you have definite plans to do so in the future?

NOTE: If you answered "no" to question #2, please skip to question #15a.

3) Briefly describe the hardware and software you use for streaming.

[ ]

4) How have you funded the additional hardware, software, and personnel for streaming? (Please check all that apply.)

☐ Additional money from library/institution administration

☐ Money taken from other resources within library

☐ Tasks absorbed by current staff and/or resources

Other: [   ]

5) How do you limit access to streaming audio files? (Please check all that apply.)

☐ On-campus access

☐ Off-campus access through Proxy server

☐ Password-protected for any college/university person

☐ Password-protected for class members only

Other: [   ]

6) Where do users access streaming audio files? (Please check all that apply.)

☐ Library's online catalog

☐ Blackboard, WebCT, or similar product

☐ Course website

Other: [   ]

7) Can users download these streaming files?

◯ Yes ◯ No

7a) If yes, please describe.

[   ]

8) Please describe briefly the response you have received from faculty.

[   ]

9) Please describe briefly the response you have received from students.

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10) Has your in-house usage been affected by streaming?

☐ Yes ☐ No

10a) If yes, please describe.

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11) Copyright is a hot topic with regard to streaming. Please describe below how your library handles copyright issues with regard to streaming.

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12a) Do you limit what works you will stream?

☐ Yes ☐ No

12b) Do you limit how much of an individual work you will stream?

☐ Yes ☐ No

12c) Do you limit who can request items to be streamed?

☐ Yes ☐ No

12d) If you responded "yes" to 12a, 12b, or 12c, please describe your policy here.

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13) Do you stream items that are not held in the library collection?

☐ Yes ☐ No

13a) If yes, please describe your policy.

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14) Does your library have a written policy on streaming?

○ Yes ○ No

14a) If yes and you would be willing to share, please include the URL and/or text below.

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                                                          ▲
                                                          ▼
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15a) Please check here if you would like to receive a compilation of the results from this survey.

☐ Yes

15b) Please check here if you would like to receive the citation for the article upon publication.

☐ Yes

15c) Please include your e-mail if you checked one or both of the previous boxes.

E-mail: [   ]

16) Would you be willing to be contacted for any additional questions or information

○ Yes ○ No

16a) If you answered "yes" to the previous question, please enter your e-mail address here.

E-mail: [   ]

APPENDIX 2

IOWA ACADEMIC LIBRARIES RECEIVING THIS SURVEY

AIB College of Business
Allen College
Ashford University
Briar Cliff University
Buena Vista University
Central College
Clarke College
Clinton Community College
Coe College
Cornell College
Des Moines Area Community College
Divine Word College
Dordt College
Drake University
Emmaus Bible College
Faith Baptist Bible College
Graceland University
Grand View College
Grinnell College
Hamilton College
Hawkeye Community College
Indian Hills Community College
Iowa Central Community College
Iowa Lakes Community College
Iowa State University
Iowa Valley Community College District
Iowa Wesleyan College
Iowa Western Community College

Kirkwood Community College
Loras College
Luther College
Maharishi University of Management
Mercy College of Health Sciences
Morningside College
Mount Mercy College
Muscatine Community College
North Iowa Area Community College
Northeast Iowa Community College
Northwest Iowa Community College
Northwestern College
Palmer College of Chiropractic
St. Ambrose University
Scott Community College
Simpson College
Southeastern Community College
Southwestern Community College
State Library of Iowa
University of Dubuque
University of Iowa
University of Northern Iowa
Upper Iowa University
Vennard College
Waldorf College
Wartburg College
Western Iowa Tech Community College
William Penn University

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[1] These two schools were the University of Iowa and the University of Northern Iowa.
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[5] Ibid.

[6] Gloria Rohmann, "Live and On-demand: Streaming Multimedia for the Academic Media Center." *MC Journal: the Journal of Academic Media Librarianship* 6, no. 1 (Spring 1998), http://wings.buffalo.edu/publications/mcjrnl/v6n1/stream.html

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