Digitized Sound Reserves and Academic Music Programs: A History and Case Study

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A History and Case Study

College-level music students spend a good deal of their study time listening to both live and recorded musical performances. Music History, Music Literature, and Music Appreciation classes seek to expose student musicians to a vast quantity of music literature in order to develop their ability to recognize various musical styles as well as an appreciation for as wide a spectrum of music as possible. More advanced students need to develop the ability to hear and evaluate outstanding performers so that good performance practices are learned, and teachers often challenge students by having them make comparisons of recordings of a single work performed by different groups or individuals. Student musicians need exposure to performances of not only traditional works, but to avant garde music, experimental music, and music of other cultures that often cannot be heard locally in live performance. This is particularly true now that an “expanded canon” of music exists in our culture—significant music that goes beyond what is traditionally defined as classical music. College music departments no longer focus solely on western music of previous centuries (Wierzbecki). Students can now study jazz, folk, and rock idioms as well as contemporary classical and non-western music at the college level. These needs make it necessary that a college’s library or music library seek to develop a sizeable collection of suitable listening materials to support coursework. Traditionally, this has meant that in addition to monographs, journals, and scores the institution must invest considerable financial resources
into LPs, audiotapes, or CDs. The problem is compounded by the periodic obsolescence of older
technologies (LPs) in favor of newer technologies (CDs), and the eventual inability to play the
older media as old technology machines wear out and cannot be repaired or replaced. The media
either must then be replaced in a newer format or be reformatted in some way in order for it to
continue to be used. Following the lead of numerous schools who have created digital reserves
programs for print materials, some music departments have attempted to address the two-
pronged problems of preservation and access by creating “in house” digital reserves projects for
musical recordings.

We are in a time where the possibility exists for moving beyond proprietary digital audio
reserves projects and for greater access to audio via online commercial sources. This paper will
describe the typical uses of digital audio reserves by college students, outline the history of
digital audio reserves in academic libraries, and present a case study of faculty use of Classical
Music Library, a commercial online digital music library.

The Literature

Plentiful literature exists regarding the acceptance and benefits of digitized print reserves
in college libraries. Two examples are “User Assessment of Electronic Reserves and
Implications for Digital Libraries” by Mary Sellen and Brenda Hazard and “Student Response to
a New Electronic Reserve System” by Anna Klump Pilston and Richard L. Hart. Both articles
emphasize the fact that it pleases the vast majority of students who use the digital reserves to be
able to access materials from a variety of locations both on campus and off and at any hour of the
night or day (Sellen and Hazard 76; Pilston and Hart 149-150).

Richard Griscom’s article “Distant Music: Delivering Music Over the Internet” speaks
more directly to the issues involved in creating digital libraries that allow network delivery of
music and of the obstacles which must be overcome in mounting a digital library project. The three primary obstacles are: “infrastructure (including the selection of hardware, software, streaming technology and method of access); collections (including decision on what to digitize and why, and related questions of copyright); and staffing (including who does what, who employs them, how work is funded, and who provides training and publics service).” He goes on to outline the tension between the seemingly mutually exclusive concepts of access and preservation, the dispute over the permanence of digitization as preservation and the urgency with which some audio recordings need preservation because of the rapid deterioration of fragile physical media such as wax cylinder and vinyl. Griscom points out that advances in computer and communications hardware and software occurring in the late twentieth century makes the delivery of digital audio over the internet increasingly more practical, efficient, and economical. These improvements come about due to reduction of audio file size by compression, faster and more widely available broadband internet connections, audio streaming, and the increase of raw computing power. He predicts that the future will bring greater combining of audio and images so that related materials on a common theme can be experienced together, such audio music, the music’s score, and pictures of the composer or performers. He also predicts the rise of online subscription services that provide access to commercial sound recordings (Griscom).

It seems that most of the literature that touches upon digital audio reserves programs focuses on the details of setting up such a project: descriptions of hardware and software needed to accomplish the work, how the digitization was undertaken, issues of copyright compliance, and access. Maple and Henderson’s article recounts the 1998 implementation of a digital music reserves project at Pennsylvania State University. This program digitized musical works for course reserves, then made them accessible both on and off campus to multiple listeners at once
through Real Player’s streaming technology. The digital recordings were captured in two file qualities for the benefit of off-campus listeners who might not have access to high-speed Internet connections. The authors point briefly to both faculty and student satisfaction with the ability to access the reserves anywhere, at any time. The 1999 pilot project described in Bayne and Hodge’s article is similar to the previous article in that it recounts creation of a program in which selected musical offerings were made available to authorized listeners but this time for only a single class. Music files were automatically created in three levels of audio quality as they were digitized so that users would have choice of sound quality based on bandwidth access. This article also emphasizes faculty/student satisfaction with accessibility but points out some problem areas encountered such as students knowing and remembering access usernames and passwords and sound quality problems. The articles point to the great investment of time required because the CDs must be recorded in real time. Both of these schools predicate their ability to digitally duplicate reserve musical recordings then to make them selectively available online as being within the spirit of “Fair Use” as defined in “Digital Transmission of Reserves” published by the Music Library Association.

Sullivan, Stafford, and Badilla-Melendez’s article that recounts the 2001 inception of a music digitization project at Winona State University has a different emphasis than the two previous articles. At Winona State, music faculty wanted to be able to access the library’s entire CD collection for research purposes. In order to meet the terms of Fair Use this library made the decision to allow streaming access to the digitized audio possible only from within the library walls. Recordings had to be digitized, as in the previously described projects, but locally written software was used for this purpose that allowed each CD to be recorded using a PC in about 1/5 the time of the real time recording described previously, and the software automatically uploaded
the completed tracks to the server. Responses from faculty and students were positive with few problem areas identified.

An article and a funding proposal focus on Indiana University Music Library’s Variations Project, an ambitious attempt to design and develop a customized digital music library as part of a larger plan to build a new music library on the Bloomington Campus of this world-renowned music school. David E. Fenske and Jon W. Dunn relate in "The Variations Project at Indiana University's Music Library" that from the earliest planning stages Variations was envisaged not simply as a reserves service, but as an attempt to “integrate collections of information principally in text, score and recorded sound formats.” The article recounts the quest to select the best network and computer hardware as well as the development of in-house software to provide access to the digitized collection and briefly outline the process for digitizing and cataloging musical selections. Operation of Variations began in 1996.

In May of 1999, Indiana University submitted “A Proposal by Indiana University to the National Science Foundation,” requesting funds to support the development of an improved version of Variations. Variations 2 would build on the success of Variations but would seek to go far beyond the initial incarnation of IU’s digital music library. The developers would attempt to extend digital library services to satellite sites away from the Bloomington campus and to provide networked access to music, scores, texts, video, and pedagogical tools. All of this was attempted within the framework of the complicated copyright issues, complex cataloging and metadata schemes, and challenging computer and communications problems. The team acknowledged that a given musical work exists in many formats (various score editions as well as various performances), and that a true digital library must serve a variety of end users (students, faculty, researchers, and the public). Additionally, the digital library must support the
mission of the IU School Music as it seeks to educate students. The proposal states, “The full value of the digital music library will be realized as the library becomes a collection of both digital content and of networked services that make the content integral to music instruction and research.”

A 2005 article, “Cant’ I Just Listen to That Online: Evaluating Electronic Access to Audio for Music Libraries” by Scott Phinney, uses surveys to assess students’ attitudes toward an online digital music reserves project at the University of North Carolina at Chapel Hill. He uses web site counts to help corroborate students’ reports of perceived usage. As with digital print reserves, students appreciated improved access. In another 2005 article, John Anderies states that college libraries today wish for a service akin to Indiana University’s Variations 2 which allows access to digitized audio music, music scores, explanatory and descriptive texts, and other relevant materials. Unfortunately, Variations 2, built on proprietary software, is limited by copyright issues and may be shared only with a select group of satellite test institutions. Plans were underway and funding being sought, however, to produce a web-based version of Variations 2 that allows the digital library technology to be used by other institutions. This would enable other music libraries to simplify the task of digitizing and making accessible various materials from their own libraries. Anderies goes on to introduce available online commercial music resources of the time and to briefly review and compare them.

History

It is a reasonably well-studied and accepted fact that digital print reserves in academic libraries have been a successful initiative. Students appreciate the ability to access course reserves from unlimited locations outside the library and at all hours of the day and night. Because of the ease of access, it is likely that students access the materials more frequently and
for longer periods. Long lines at the reserve desk are non-existent in the days immediately before tests and exams due to the ability multiple students to access reserves simultaneously.

It is a labor intensive and expensive procedure to create a digital reserve files—print or audio. It also requires that teachers make class plans in advance and either request library items or supply personal items to the library in a timely manner that are to be placed on reserve. Library processing activities such as scanning, placing files on the server, and cataloging for access take time and human resources if the digital reserves are to be ready when needed. Difficulties in creating digital reserves may be mitigated by the fact that some professors will use particular items over and over which allowing them to be stored and reused without redigitization; however, it is more likely that greater demand for digital resources to be placed on reserves for more courses will overshadow any described gains.

Earliest attempts at audio digitization sought to preserve sound recordings originally made on fragile media such as wax cylinders or “non-commercial historical recordings, local concert and rare 78s” (Griscom). Though some archivists argue that digitization is not a permanent answer to sound preservation, others acknowledge that it may be the best solution we currently have and that to wait indeterminately for a better solution risks the loss of irreplaceable recordings. Simultaneously digitization can improve access, as proven with print reserves. The continued increase in computing power, cost effectiveness of storage media, increased sophistication and reliability of communications methods, and the decrease in related costs, the improvement of streaming, compression strategies, and software--factors which contributed to making digital print libraries possible initially--have now reached the point where digital audio libraries are more economical and dependable.
Advances in sound transmission technology were put to use in many ways in the past two decades. In 1999 the appearance of Napster, the first popular peer-to-peer (P2P) file sharing system, brought hope to many that massive numbers of musical files would eventually be available to the public as free downloads for listening and for burning to CDs. The service, though, circumvented the payment of royalties to writers, performers, and publishers. By late 1999, some performers and the Recording Industry Association of America (RIAA) filed lawsuits requesting Napster be shut down. Various other peer-to-peer file sharing systems containing music and movies were developed after Napster’s closure in 2003, and legal wrangling over other free services continues. Though a huge source of popular music, it is unlikely that Napster had much significant effect on the classical music market and most certainly not in academic circles. In 2003, Apple opened its *iTunes Music Store* which allows the convenience of downloadable music but legally contracts with music producers and charges for downloads allowing music creators, performers, and purveyors to be justly compensated.

In 1999, *Classical.com* was founded and was the first commercial service aimed at libraries. In 2004, Alexander Street Press purchased the service changing its name to *Classical Music Library* (CML) and billed it as the “worlds largest multilabel database of recordings for listening and learning in libraries” (Anderies). With the help of an external advisory board, the collection of classical music has grown to represent the music of major, as well as less significant composers, in a multitude of genres and styles with a constantly expanding library of selections now standing at over 50,000 tracks (Classical Music Library).

The database has many features that make it a flexible teaching tool. The collection is fully searchable by numerous entry points such as title, composer, genre, and instrumentation using Boolean searches. Advanced search and browse capabilities are available. Streamed
digital music files are available in three speeds for accommodation of low and high bandwidth connections at near CD quality. A third speed allowing for CD quality is available at extra cost. Institutions have the option to allow users to download files and charge the cost to a credit card.

The publisher grants an unlimited number of faculty passwords so that teacher and librarians can create folders that contain individual class playlists. Numerous pre-defined playlists are included on the site that highlight various musical styles, periods and genres as well as such lists as “Lover’s Guide” and “Wedding Music”. Users can also create password protected personal playlists that are stored on the producer’s servers. A set of playlists are available that contain recordings that accompany several major music history and music appreciation textbooks. All class folders and track URLs have persistent links that allow citations to be made on web pages, in e-mail, or in syllabi that insure the ability to link dependably to musical tracks, and that can also be used in online teaching software such as WebCT or Blackboard. Users can listen to full tracks or portions of tracks and can move backwards and forwards in a track without the lengthy delays often experienced with media files.

In addition to the music files, the database includes numerous textual helps for the student such as glossaries and (unsigned) biographies. If a subscribing institution also has a subscription to either Grove Music Online or Wilsonweb, the CML database will automatically link to these resources for further information in some instances.

Case Study

Kennesaw State University

Kennesaw State University’s (KSU) 240-acre campus sits in a suburban area approximately 30 miles north of downtown Atlanta, Georgia. The third largest college in the University of Georgia system, it has experienced phenomenal growth since its founding as
Kennesaw Junior College in 1963. The student body numbers almost 20,000 people, some 1700 of which are international students representing 136 countries. The university’s “Get Global” initiative seeks to broaden both faculty and student’s acquaintance with international peoples, places, and organizations.

The music department at KSU serves some 160 music majors and minors. It has three degree programs: Bachelor of Music (BM) in Performance, Bachelor of Arts (BA) in Music, and the Bachelor of Music in Music Education (BM). Nineteen full-time faculty and 23 part-time faculty share teaching responsibilities in the music department (Kennesaw State).

**Methodology**

Four music department faculty members were identified as bearing primary responsibility for teaching Music History and Music Appreciation, all courses that usually require a significant amount of music listening. The teachers were contacted via e-mail and/or voice mail regarding the intent of the study and inquiring of their interest in taking part in it. All four of the identified faculty group responded affirmatively and were interviewed by phone between Wednesday, April 4 and Tuesday April 17, 2007. They were assured of anonymity and confidentiality, and were asked a set of 14 question aimed at eliciting their attitudes toward and a general measure of their use of Classical Music Library\(^1\). Because of the extremely small size of the sample, no attempt was made to either code responses or make any statistical study of the data.

**Interview Synopses**

Professor A is extremely enthusiastic about Classical Music Library (CML). He first learned about the database shortly after Kennesaw State University (KSU) initially subscribed to it in 2005. One of the school’s librarians sent e-mail to the music faculty introducing the database and its features. Since no specific training was offered on using the database,

\(^1\) For survey questions, see Appendix.
Professor A spent time familiarizing himself with the literature and features of CML. He requested that a faculty password be set up which allowed him to set up folders containing class specific playlists. He states that there is a tremendous amount of usable music literature on the database in a variety of styles and by numerous composers, and that there are enough variant recordings of some of the individual works as to make comparison listening possible. He uses the database constantly with his class. One creative way he did this was to require students in a specialized literature survey class to create and submit a personal playlist of their own that contained their ten favorite works from the database representing the period they were studying. He plans to continue using CML in the future, but his wish is for the addition of more literature with time. He states the department has a need for more world music in support of the university’s current global initiative and more jazz music to support a recently created jazz program at KSU. He goes on to say that the students like CML, but that faculty have been slow to adopt its use and tend to shy away from it because it is unfamiliar technology and has a learning curve. He also states there may be some generational difference between faculty who readily accept such technology and those who do not. He further relates that he knows that students frequently find music they like on CML then download the tracks from other sites, such as iTunes, because it is less expensive to do so.

Professor B learned about CML from Professor A. Professor B uses the database extensively with his classes. He posts information about accessing the site and individual listening requirements on his syllabi, but he does not set up class-specific folders or create links in his syllabus to music tracks. Students must search the database to find the items to which they are to listen. Professor B is also generally pleased with the range and quantity of music literature but also hopes the collection will grow.
Professor C learned of CML from Professor B. He uses listening requirements in CML to supplement others in a set of CDs that accompany her class textbook. He has not taken the opportunity to set up class folders or track links, but does promote CML in his classes and syllabi. Professor C states that he is well satisfied with the literature contained in the database and plans to continue using the database. He also hopes the literature collection will grow with time. We chatted about some of the features he was not aware were available in the database. He asked several questions and seemed enthusiastic about exploring some of the features about which he had just learned.

Professor D began using CML shortly after its introduction as KSU. He states that he attempted to use the database to play music for students in his classroom but had trouble doing so on more than one occasion. The selections he chose did not play dependably and class time was wasted. He also states that the quality of sound in some recordings and the musical quality of some performances are not good. He now uses only the CDs that accompany the textbook for listening assignments and does not plan to use CML again.

Discussion

The writer, upon discovering that Kennesaw State University subscribed to Classical Music Library, wanted to find out if this innovative and groundbreaking service was used to any degree. Of particular interest was how much and in what ways faculty of the university’s music department make use of it. Being a musician himself, the writer theorized that the database is little used. Musicians tend to have not only specific favorite compositions but want to hear those works performed by specific favorite performers or groups, and they may even have favorite specific recordings of works with which they are familiar and comfortable. Unfortunately, it is not yet possible to access all specific titles of classical literature online, so some desired literature
may not yet be available online and particularly on a specific single online service to which a college may subscribe. It may never be possible or economically feasible for the bulk of classical music literature to be made available by one purveyor due not only to the massive scope of the project, but also because of copyright and licensing issues. In some instances, this means the teacher may prefer to put a personal copy of a favorite recording on reserve rather than to use the less familiar online version, which limits the item’s availability unless digital audio reserves are possible.

The challenge of learning to use new technology is often daunting, particularly for those who already consider themselves technically challenged. To use Classical Music Library at all, one must feel comfortable with using computers and the database itself. If one is to use CML in the classroom, one must also be familiar with the audio amplification equipment at hand. The database, though simple to use, does require exploration in order to become familiar with the works available and how to access them. A larger learning curve exists if the user is to become proficient and learn to exploit the database’s features to their fullest. To many musicians, time spent learning technology is time NOT spent in developing musical skills or learning repertoire. The professional performer/teacher must often negotiate a difficult schedule of teaching, practicing, traveling, rehearsing, and performing in addition to completing expected faculty service responsibilities to a college or university. One of the last things busy teachers want is to have to investigate or master new technology, particularly if one is not technologically curious. Tradition and habit, too, play a part in lack of receptivity toward technological innovation, even if it offers potential benefits. Unless teachers are thoughtful and creative, we fall into a rut and “teach as we were taught.”
The synopsized interviews show that moderate to great enthusiasm exists regarding CML among the majority of the selected group of KSU faculty regarding. Three-fourths of the group consistently use and give generally favorable or better ratings to the database. Only one of those interviewed tried the database then chose not to use it after having technical problems in classroom use. This generally positive response leads this writer to conclude that there is significant potential that the KSU music faculty could be effectively encouraged to use CML more.

**Recommendations**

Library staff should initiate contact with the four professors interviewed for this paper to further explore issues. Librarians should ask the three most positive interviewees for ideas and suggestions for promotion to faculty and students and their help enlisted in doing so. Professors D’s problems with the classroom technology issue should be fully explored and the library may need to involve campus technology services to help to do so. Do technology issues exist that degrade the ability of using CML dependably and easily in classrooms such as inadequate wiring or connectors, intermittent or slow connections, or outdated and underpowered computing equipment? Are there more issues that can be addressed by training of faculty in the use of classroom media technology? If so, opportunities should be made available.

A strategy should be devised to elicit student opinions and to gauge the degree of usage of CML. Possibly one or all of Professors A, B, or C will allow a survey or a brief focus group session to be conducted during one of their classes. Ask students what features they use, what features they do not use, and how their teachers might better employ CML.

It would do well for the library staff to mount an effort to reintroduce CML to music faculty and music students. Enough time has passed since its initial introduction that both these
groups have had time to forget about the resource if they are not regular users. Student bodies renew themselves over time as students graduate and matriculate each year. Faculty members who do not use the database and are reluctant to jump into the learning process on their own, either because of uncertainty or because of outright technophobia, may be more open to it after hearing the positive recommendations of colleagues who successfully use CML. The musical content as well as issues that affect the utility of databases like CML change rapidly, and even in the case of individuals who regularly use the resources, they find that they must spend some time updating their knowledge and skills. If nothing else, this database seems to be committed to rapidly expanding its musical offering, which requires user exploration. Additionally, the music faculty at KSU consists of a slightly greater number of part-time members than full time. It is likely challenging to keep this number of part-time employees fully aware of innovations such as CML. If turnover is high among this group, it is possible that many are not aware the library provides access to it or may not be aware of its existence.

This writer found professor A’s class requirement that students turn in a favorites playlist from a musical genre being studied most creative. The students were learning about not only the music at hand but also how to effectively use the technology to access that music. Library staff and music faculty could brainstorm together to come up with innovative ways to use CML in individual learning activities, group projects, and in testing and evaluation.

It is important for music faculty to know that library staff are able and willing to provide training for this database as well as subject specific bibliographic instruction. Librarians need to cultivate relationships with music faculty, promote the database, and encourage teachers to request faculty password that all them to explore how to create class folders.
The university may wish to pick up on Professor A’s comments about music to support the school’s Global Initiative and the music department’s new jazz program. This same publisher offers two world music products, *Contemporary World Music* and *Smithsonian Global Sounds for Libraries* and might be able to receive a discount for subscribing to all these databases together. There is no specific online jazz product offered by Alexander Street, however, Naxos does have an online Jazz library of some 20,000 titles (Naxos).

**For Further Research**

Whereas digital print and digital electronic reserve programs have received coverage in the literature, it seems that the relatively new but increasingly available service of online music delivery in support of academic music programs is currently a little studied topic. Since online delivery appears to have great potential for improving access to classical music in an academic setting it is logical that time and energy need to be spent investigating the operation, strengths, weaknesses, usage, and perceived usefulness of the service.

This qualitative look at the attitudes of faculty at one university is limited. Similar studies need to be undertaken at other schools with larger music programs. Researchers need to capture quantitative data regarding usage by both faculty and students. Longitudinal studies should be mounted to ascertain if database usage is growing, declining, or remaining the same over time. It would also be interesting to see what specific suggestions users make for taking the service to the next level in its usefulness.

Reviews of single databases and comparative reviews have been previously published. Such articles need to continue to be published frequently as musical literature and services they offer change rapidly. No doubt, players in this competitive game will enter and drop out over
time. Such reviews and comparisons allow those responsible for collection development to make informed choices for their particular situations (Anderies; Goldman and Connolly).

**Summary**

New technology is enchanting to some and anathema to others. We cannot yet fully see what effect commercial online digital music libraries will have on the academic music library collections of the future. Diane Parr Walker challenges us as we dream and plan for the future:

Boundaries between academic disciplines are becoming increasingly fuzzy, even as deep expertise becomes increasingly focused. In order to serve faculty and students, academic libraries will be pressed to provide more effectively for the specialist in a particular discipline, and the experts from other disciplines who want to draw on resources that have not traditionally belonged to their fields. Music in the library of tomorrow will need to be pertinent to a much wider audience that the community of musicians for which many music libraries have been built in the past. Courses in American Studies, history, popular culture, and other areas should expect to be served as well as musicians are by the music collected by their libraries, and music libraries would do well to broaden their collecting scope to include the music needed by professors across their academic institutions. Digital technology can be exploited to make it easier for this wider clientele to access, explore, and use musical sound (822).

This paper has attempted to explain how college music students depend on and use academic library music resources and to delineate a brief history of projects aimed at improving access to those resources through digitization. Specifically, we have looked at one university’s faculty usage of a single online musical library—Classical Music Library—and made suggestions as to how the database may be exploited more fully.
We have reached the point where online delivery of digitized music is not only possible but quite feasible and economical, as well. Will the online delivery of music develop to the point where it can be of equal use to the music student the music professor as well as the engineering student and the history professor? Only time will tell.
Appendix

ASSURE PARTICIPANTS OF CONFIDENTIALITY AND ANONIMITY

CML=Classical Music Library

1. Are you familiar with CML?
2. In your own words, tell me what you know about CML?
3. How did you discover CML?
4. Have you explored CML personally?
5. Have you received any instruction in using CML?
6. Have you listed CML in any course syllabi?
7. Have you promoted CML in any classes?
8. Have you suggested to students they use CML for any of your classes?

If you have used CML for a class:
9. How well did it work?
10. What were your impressions?
11. Do you plan to use it again?
12. Why or why not?
13. What improvements would make CML more useful?
14. What would encourage you to explore this resource further?


<http://www.dlib.org/dlib/june96/variations/06fenske.html>.


