

# Digital Rights Management and Cultural Institutions

Case Study: Maine Music Box

## Project Description

The Maine Music Box (MMB) is a digital music library and tool set that provides computer generated musical renditions, images of sheet music, scores, and Scorch software tools for user interaction with audio files such as the ability to control playback, tempo, instrumentation, and key (Lutz & Gallucci, 2005). Created through a collaboration of the Bagaduce Music Lending Library, Blue Hill, Bangor Public Library, and the University of Maine's Fogler Library, and funded by a grant from the Institute of Museum and Library Services (IMLS), the stated goals of MMB are as follows:

- Broaden access to the collections of sheet music, scores, and manuscripts.
- Create preservation copies of the disintegrating paper scores.
- Create an online instructional tool to enrich the experience of music educators and students.

The MMB currently contains "approximately 22,000 pieces of historical and popular sheet music published and widely played from the mid-19th century until approximately 1990" (Lutz, 2005). Each item in the collection was digitized through a process that involves scanning of the

### Special points of interest:

- Address: <http://mainemusicbox.library.umaine.edu/>
- Provides online access to sheet music, audio files, and annotation tools for use in music education.
- The Maine Music Box contains digitized versions of approximately 22,000 pieces of historical and popular sheet music. Access to copyrighted materials is restricted to registered educational users. Public domain materials are available to all users.
- The Maine Music Box uses the following technological tools to control access and use: user registration, user login, and randomization of collection identification numbers.
- The Maine Music Box uses the following policy tools to control access and use: posted terms of use and copyright statements on its website and copyright information included in collection item metadata.
- Recommendations from the Maine Music Box include best practices for providing educational access to copyrighted sheet music, understanding copyright laws, and assuming risk when dealing with works of uncertain copyright status.

printed sheet music or scores to high resolution images. In some cases the images were used to create computer generated MIDI audio files (see Figure 1), Sibelius Scorch files (see Figure 2) of the music, and text files containing lyrics (if applicable). Scorch audio files allow users to view

and interact with the audio file with playback controls and tools for adjusting tempo and key.

## Reasons for controlling access and use

According to Marilyn Lutz, former Co-Director of the Maine Music Box and Director of Library Information Technology Planning at the University of Maine System, copyright restrictions are the main reason that the MMB controls access and use of certain materials. General public users can only access pre-1923 (out of copyright) full score images and sound files. For works still in copyright, the general public can only access thumbnail image and a text metadata record.

Access to score and sheet music images of copyrighted materials is available to registered educational and research users requesting “instructional accounts.” Requiring registration for instructional accounts allows MMB to make a stronger fair use claim for use of the copyrighted works. The MMB did not make audio (MIDI or Scorch) files of music works in copyright, therefore audio files are limited to out of copyright works. Further, the MMB cho-

sen not to include orphan works in its collection due to the risks inherent in providing access to those items in the current copyright law environment. In 2010, the MMB website stated that 62% of the items in the collections were in the public domain and 38% were under copyright.

The decision to use computer generated MIDI or Scorch audio files instead of recordings of live performances allowed MMB to avoid clearing performance rights for each recording. Using computer generated audio allows the MMB to focus solely on the copyright status of each piece of sheet music in the collections while avoiding the complex copyright laws surrounding music recordings.

After obtaining an instructional account on MMB, teachers are able to log in to the password-protected side of the website that contains tools to create lessons for students and access to copyrighted scores and sheet music. Drawing on the available materials, teachers create lessons for their students, and students access the materials through student login accounts. Students may only access copy-

Figure 1. Screenshot of MIDI audio playback screen.



righted materials assigned by their instructors, but they may access any out of copyright works.

## Technological controls employed

The MMB controls access to copyrighted materials primarily by limiting access to those users registered for an instructional account. These accounts are only available to teachers for educational use. Requests are evaluated by an MMB staff member; however, no formal credentialing is employed in the registration approval process. If approved for an account, instructors are given a password that must be used to log in to the instructional side of the website. After logging in, registered teachers are able to select copyrighted or public domain music for use in lesson plans that can then be emailed to their students along with information on how to log in and access the lessons. Instructors are able to create credentials for their students that allow them to access specific music in each lesson.

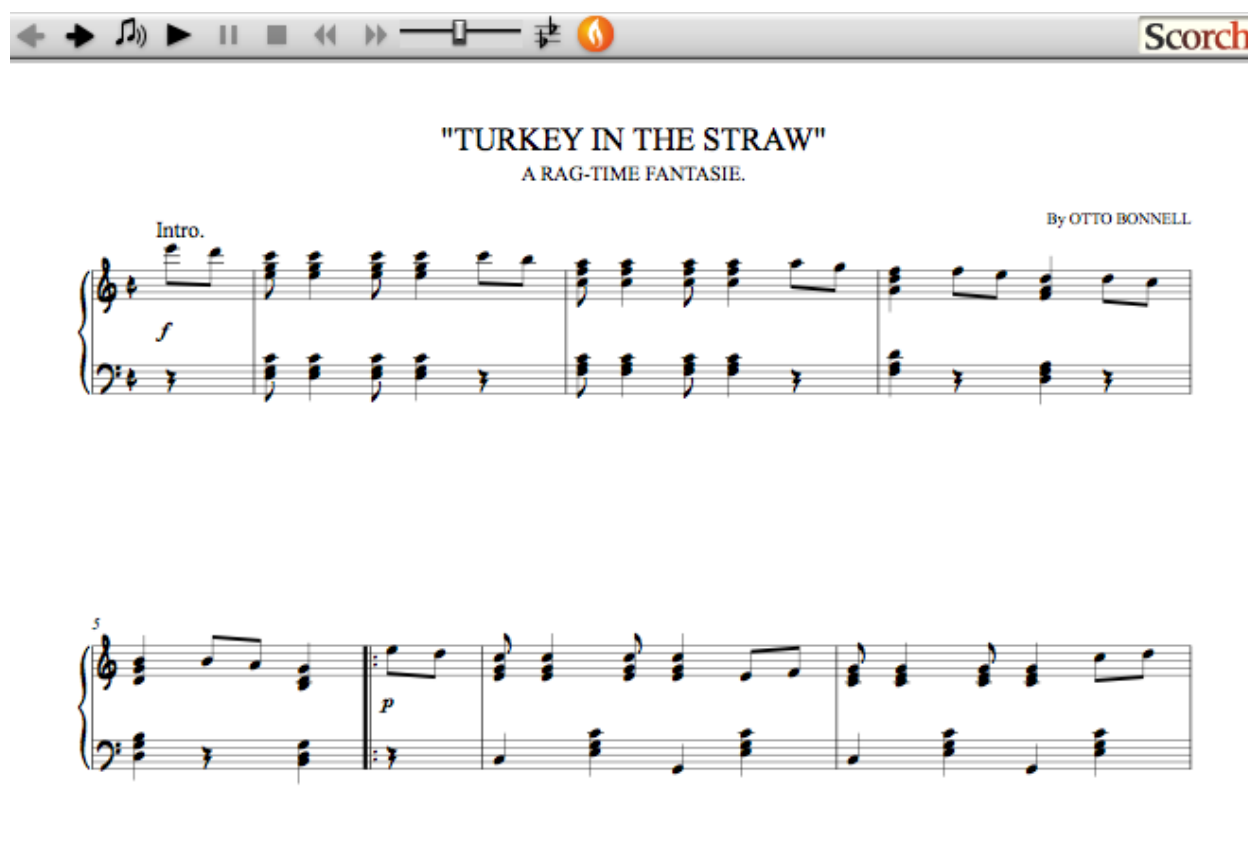
Any attempt to access a page that displays a score, cover, or music file associated with copyrighted material triggers a credential check for the session to determine if the user is authorized to view it. If the user is not an authorized instructor or student, access is denied and a message is displayed advising the user to log in through the instructional channel.

The MMB employs randomized naming strategies to avoid unauthorized mass downloads. The project initially used library call numbers for identification purposes; however, identification num-

bers for files are now randomized after an incident involv-

"The Maine Music Box seeks to control access and use of certain materials due to copyright restrictions, but encourages creative reuse for educational purposes."

Figure 2. Screenshot of Sibelius Scorch file. Note playback controls at top.



ing a hacker who attempted a mass download of the entirety of the website's contents. Images were originally numbered with catalog call number and sequence (e.g., VP\_002345\_001.jpg). Because there is no security associated with a request to the web server for a .jpg file, anyone could guess image names and initiate a mass download. MMB solved this problem by renaming the files using 20 digit random numbers mapped to the original file names.

Because all audio files on MMB are in the public domain, controlling copying of those audio files is not necessarily a copyright concern. That being said, the audio player browser plug ins employed by MMB (MIDI and Scorch) can discourage saving of audio files. One cannot easily "right click" save on the files and there are no save interface options in the MMB Scorch interface or the default Quick-time player used by the MIDI files (see Figure 2). It is possible to save copies of the audio files, but it is not easy.

Because MMB does provide access to in copyrighted sheet

music and scores in instructional accounts, controlling reproduction of these works is important. The Sibelius software Scorch interface can permit saving images, but MMB has chosen not to display the save images options in its interface.

## Recommendations for use of technological controls

Lutz stresses that the MMB only employs access and use control technologies that are absolutely necessary due to copyright because a primary goal of the digitization project is to provide wider access to cultural materials.

MMB's registration process enables wider access, but at

"...registration enables some users to access copyrighted materials and ensures that uses of materials will fall under fair use protections."

Figure 3. Screenshot of description of access-restricted instructional channel.

### Instructional Channel

The Maine Music Box includes images of musical scores, lyrics, midi sound files and other files. The materials are useful for instruction in music and many other fields (art, literature and social studies, to name a few).

If you are an instructor and would like to access the instructional module of the Maine Music Box, please request an [Instructor's Account](#). If you are a student who would like to use the instructional module, please contact your instructor.

### Using the Instructional Module

**Teachers and the Maine Music Box:** The Instructional side of the Music Box is a password-protected instructional interface available to instructors who request access. The instructor selects a list of music from the database and builds a lesson around the music with specific assignment directions. The lesson is then emailed to students, along with a student login. Students log in to the Maine Music Box to access the lesson instructions with links to the selected music scores.

The Instructional Channel is a versatile teaching facility for teachers of music, social studies, history, the arts, and other disciplines. Lyrics, fully searchable by keyword, offer rich textual material for social, historical, and literary purposes. Sheet music covers are a treasure-trove of period art and advertising; vocal music is useful for the teaching of voice, and the musical scores themselves, as well as the MIDI files and Scorch files, are an invaluable musical resource. The capacity of Scorch files for transposition to other keys can greatly simplify the preparation of band arrangements, aiding in teaching or arranging, transposition, and composition.

The password-protected instructional module gives instructors full access to music titles still in copyright. The instructor's selections may include this copyright-protected material, which is not available to the general public on the search/browse channel of the Maine Music Box.

the same time ensures that uses of materials will fall under fair use's educational use protections.

## Policy controls employed

As discussed above, the MMB only allows access to copyrighted sheet music and score materials by registered educational users; however the MMB takes a wide view of who counts as an educational user. Examples of users from outside of the field of music instruction who have requested access to the copyrighted materials include an instructor of technology and web design and a graduate student interested in digital preservation.

The MMB website also posts generous terms of use for research, teaching or private study use: "Users may reproduce (print, make photocopies, or download) materials from this website without prior permission, on condition that you provide prior attribution.." (About the Maine Music Box) According to the terms of use, other uses, or

any use that does not fall under Fair Use, must seek explicit permission.

The MMB also emphasizes attribution as a way to recognize the contributions of the various institutions involved with the project. Attribution also provides evidence that the collections are being used to promote educational goals.

Copyright dates are also included in the metadata displayed for each piece of music (Figure 5).

## Recommendations for use of policy controls

Copyright law is particularly complex for music. Lutz emphasized the importance of understanding the different copyright statuses of various objects in a collection (e.g., sheet music vs. cover art, vs. lyrics). She emphasized the importance of having a clear copyright and

Figure 4. Screenshot of terms of use and copyright policies.

### Use and Reproduction

Images of music in this database are only available for music that is in the public domain, published prior to 1923. The materials in the database have been made available for use in research, teaching and private study. For these purposes users may reproduce (print, make photocopies, or download) materials from this web site without prior permission, on condition that you provide proper attribution of the source in all copies.

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### Copyright and Citation

Images and texts on these pages are intended for educational and research purposes. Music published after 1923 is not in the public domain. Image, sound and text files are not accessible for music published after 1923.

Approximately 62% of the sheet music in the Maine Music Box collections is in the public domain and 38% of the sheet music is still under copyright protection. For music that is published after 1923, users will find a thumbnail image and a text record only, not full images of the score or associated sound files.

The copyright law of the United States ([Title 17, United States Code](#)) governs the making of photocopies or other reproductions of copyrighted materials.

**FAIR USE:** Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be used for any purpose other than private study, scholarship, or research. If a user makes a request for, or later uses a photocopy or reproduction for purposes in excess of "fair use", that user may be liable for copyright infringement.

terms of use policy posted on the project website.

While the MMB currently does not contain orphan works, the project director advocates policies that allow for some degree of risk in including those types of materials in the collections as long as attempts to clarify the copyright status are clearly documented.

## References

- Lutz, M. (2005). Featured collection: The Maine Music Box. *D-Lib Magazine*, 11 (3). doi:10.1045/march2005-featured.collection
- Lutz, M., & Gallucci, L. (2005). The Maine Music Box. *First Monday*, 10(6). Retrieved from [http://firstmonday.org/issues/issue10\\_6/lutz/index.html](http://firstmonday.org/issues/issue10_6/lutz/index.html)
- Lutz, M. & Stoll, K. (2005) Maine Music Box: Partnering to Build a Digital Maine Learning Community. Final Project Report: Grant LG-03-02-0116-02



### Digital Rights Management and Cultural Institutions: Case Study of the Maine Music Box

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The case studies portion of the project identified six exemplary projects that employed a variety of rights management technologies and policies to serve as examples from which other institutions might learn.

Related study outputs include:

Eschenfelder, K.R. (2009). Controlling Access to and Use of Online Cultural Collections: A Survey of U.S. Archives, Libraries and Museums for IMLS. University of Wisconsin-Madison School of Library and Information Studies: Madison, Wisconsin. (<http://minds.wisconsin.edu/handle/1793/38251>)

Eschenfelder, K.R.; Agnew, G (2010) "Technologies Employed to Control Access to or Use of Digital Cultural Collections: Controlled Online Collections" *D-Lib Magazine*.

