A DIGITAL COLLECTION OF BRAZILIAN LUNDUS

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Lundu is a typical Brazilian popular musical form at the 19th century. The distinguished musicologist Mozart de Araújo devoted himself to studying lundus and other forms of that period. He collected 48 lundus, which are nowadays stored in a private library, unavailable to public access. The present work describes the implementation of a digital collection of those lundus, using Dspace as the repository. Dspace is chosen in order to guarantee interoperability through the OAI-PMH protocol. Metadata is generated using Dublin Core elements, fully compatible with Dspace. The digital collection provides access to the lundu score images, incipits and midi files, as well as metadata. It is the first time such a rare collection of 19th Brazilian popular music will be available on the web. As Dspace enables interoperation among repositories, a broad community may access the collection.

During the 19th century, European and African music styles met in Brazil, producing adaptations of European dances such as the waltz, the polka, the schottisch, as well as new genres, such as the suggestive and piquant lundu and the sentimental modinha. In the surviving scores, lundus are characterized by Africanisms in the lyrics and syncopated rhythm, common elements found in many Brazilian popular forms.
Mozart de Araújo (1904 1988), one of the most prominent Brazilian musicologists, devoted himself to studying modinhas e lundus. He collected 45 printed and 3 manuscript lundus, which nowadays belong to a private collection, where public access is not allowed. This is the main motivation for the present work.
A digital collection has been designed to store the digitized score images, midi files and metadata about the lundus. Dspace has been chosen to implement the repository, as it is free, compliant with the Open Archives Initiative, and provides open access to the stored resources. The interoperability with other repositories is assured by OAI-PMH – Protocol for Metadata Harvesting. This is the first on-line collection of such rare lundu score images and midi files. Moreover, it will provide musicologists and musicians with relevant bibliographic information about this repertoire.
The implementation of this collection is part of a major project held at UNIRIO Universidade Federal do Estado do Rio de Janeiro that aims to make available a comprehensive digital library of Brazilian music. It also takes part in a series of initiatives to preserve Brazilian cultural heritage.

IMPLEMENTATION ISSUES

Dspace functional model

Dspace functional model reflects the structure of an institution. It is hierarchically organized in communities and sub-communities, corresponding to departments or laboratories. Sub-communities contain collections, which are groupings of related items described by metadata to which correspond one or more digital resources.
Dspace provides for an authorization procedure, through which groups of users may be granted permission to add/remove and read/write actions on communities, sub-communities, collections, items and resources. A special user the administrator – is entitled to perform all such actions. The administrator of a collection is also responsible for approving the submission of items.

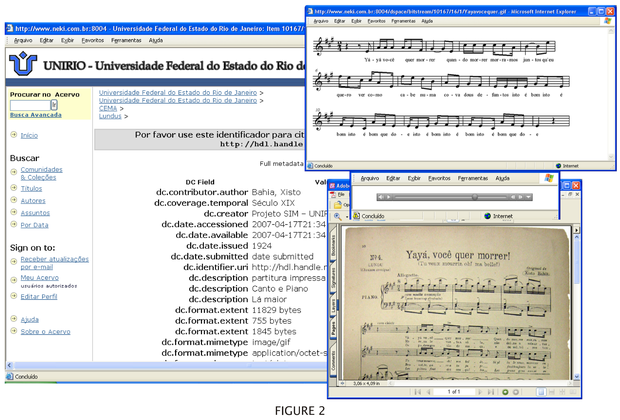

FIGURE 2

Dspace at UNIRIO

Figure 1 illustrates the Dspace community at UNIRIO. It contains the sub-community CEMA Center for the Memory of the Arts which contains the collection LUNDUS.

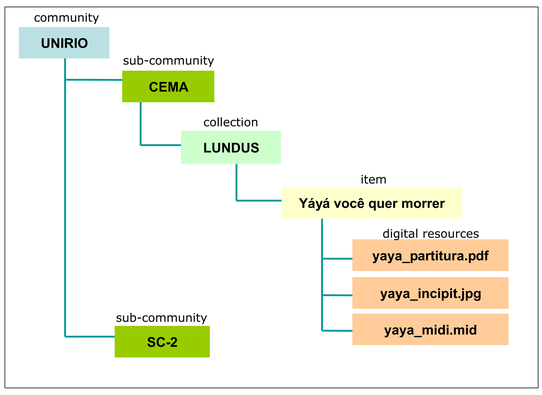

FIGURE 1

Figure 2 displays the Dspace screen with metadata describing the lundu "Yáyá, você quer morrer", as well as the three digital resources associated to it: the score image (yaya_partitura.pdf), the incipit image (yaya_incipit.jpg) and the midi file (yaya_midi.mid).

To improve Dspace user-friendliness, a number of tools have been developed, for example to enable batch submissions of items.

OAI PMH: Protocol for Metadata Harvesting

Dspace implements the Protocol for Metadata Harvesting (OAI-PMH) proposed in the scope of OAI to provide interoperability among repositories. Harvesting refers to gathering together metadata from a number of distributed data repositories into a combined data store.
Interoperability in the scope of OAI-PMH stands on the basic element set proposed by the Dublin Core Initiative [3]. Designed to provide a "core" set of descriptive metadata, the fifteen basic elements carry information on title, creator, subject, description, contributor, date, and so on.

The creation of new elements to accommodate application specific metadata is not forbidden, but would interfere with compatibility and interoperability. One could, of course, use repetitively the element description, but this would not contribute to interoperability either.

CONCLUDING REMARKS

This work has described the implementation of a digital collection of lundus, a typical popular musical form at the 19th century in Brazil. 48 lundu scores collected by Mozart de Araujo have been digitized and stored in a Dspace repository, as well as incipits and midi files.
The main contribution of this work consists in providing accessibility to a rare collection of lundus. Dspace implements the OAI-PMH protocol, and, thus, interoperability with other repositories is assured. The digital collection is worldwide accessible through the link www.unirio.br/ppgm/cema. It is the first digital collection of Brazilian musical scores compliant with the Open Archives Initiative.
A drawback of OAI-PMH as currently implemented is that it implies the Dublin Core basic element set as a minimum standard for interoperability. Consequently, the protocol does not cope with application specific metadata, such as measure, key and instrumentation. The element description could store such data, but this would incur a loss of semantics and interoperability.
Dublin Core does not provide for assigning roles to agents, concerned by the elements creator and contributor. In the scope of OAI-PMH, the creator field stores the provenance of the resource, i.e., the institution in which repository the resource is kept. All intellectual agents are mentioned as contributors. Thus, it is not possible to distinguish between the composer and the author of the lyrics.
To manage such difficulties, in future work MODS Metadata Object Description Schema will be used. MODS, which has proposed by the Library of Congress, is a predefined XML schema for cataloguing all kinds of resources, both digital or non-digital. The connection between MODS and Dspace will be also investigated.

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