15. The Legatum initiative
Challenges and alternatives to a Brazilian experiment on remote access

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This paper summarizes the preliminary findings of the second phase of a research project entitled Digital Challenges and Alternatives for the Safeguarding and Dissemination of Public Audiovisual Archival Heritage (2013–2016). The final phase, lasting three years, is currently in progress and will finish in 2019. The project has collected data on audiovisual archives across Brazil, inquiring about collections scopes, environments, planning and more. One aspect of the project has been developing a beta version of Legatum, an innovative and collaborative digital platform of international scope based on open protocols. Legatum focuses on collections in Romance language institutions and is intended to preserve audiovisual heritage as well as to provide long-term, wider access to users.

In 2005, the Grupo de Estudos sobre Cultura, Representação e Informação Digitais (CRIDI, Research Group on Digital Culture, Representation, and Information) launched a research project entitled Digital Conversion of Special Documents from Public Collections and the Informational

Consciousness: Technical and Theoretical Aspects in the Field of Information Science.[1] This first phase (2005–2007) allowed us to collect data on photographs, sound and moving image collections from 109 public institutions in the city of Salvador (Bahia, Brazil). Of these public institutions, 35 hold audiovisual documentation.[2]

From 2013 to 2016 we developed the second phase of research (Silva, 2012). It updates the initial data collected in Salvador ten years prior, allowing us to understand the current state of preservation and access. In the second phase of research, many other institutions that hold audiovisual collections joined the initial 35, not only from the city of Salvador but also from 8 other Brazilian states and the federal capital, increasing the total number of institutions involved to 65.[3]

The initial survey collected data to identify institutions' collection themes, media or file formats, base materials of items, queries control, and services and equipment offered to the users. Later survey data gave us insight into institutional contexts such as digitization priorities; technical knowledge, teams and equipment available; existing rules, best practices, policies and disaster plans; technical reports,

financial and human resources from previous digitization experiences and much more. Collection of these data offered a picture of what is being done in the digitization field, how and why it is being done and what we can learn from these practices.

All the institutions and organizations that have been collaborating with the research development benefit from it. Besides obtaining increased visibility through the CRIDI website, they have access to the collected data. Through this collaborative effort, institutions are able to share, compare and correlate data across collections. In addition, institutions can develop common standards for metadata description, long-term access decisions and preservation plans. The main product of our research will be the Legatum repository (see below), which will safeguard audiovisual heritage. The process of digitization is not a stagnant one, for digitized files are in need of continuous upgrading. We are constantly searching for improvements in user access and addressing user needs. We see this work as a way of contributing to public institutions within society that uses technology and enables the recognition of the social memory of history and the society we live in. Our research revolves around a key question: how do we convert audiovisual material from many different traditional (analogue) formats so that digital remote access and preservation of their digital versions are appropriate?

Methodological approach

This research is aimed at enabling a smooth transition from analogue to digital material by providing an environment in which to do so: a platform. In addition to a platform, institutions wishing to digitize need a trained team with knowledge of proper procedures, proper equipment and software, knowledge of user needs and knowledge of institutional policy frameworks. During the digitization process, original analogue materials must be retained. This material holds valuable information that risks being lost in digitization.

When thinking about the issues related to our research problem, investigating cases of conversion from analogue to digital, we believe that nothing should be described as fixed objects but instead as moving ones – in constant transformation, in development. The digital challenges and alternatives for safeguarding and disseminating audiovisual heritage will meet a new way that suppresses and contains, at the same time, the primitive properties (Marconi and Lakatos, 2003, p. 102). What are the changes that arise from the digitization of documents? Going beyond the technical aspects, we have to ask about the historical, social, political, and technical meanings of the research (Frigoto, 1989, p. 83). Analogue materials inherently carry these meanings.

Analogue data can give insight into the social context under which they were created, the original social values associated with them, and the authentic user experience of the original material. These valuable aspects of analogue material risk being lost in digital copies. While digitization is necessary for expanding user reach and safeguarding records for the future, the analogue material holds extremely valuable information that must not be lost.

There is a need to move ahead in order to study the factors that interfere in the decisions about what and how to digitize. The results should not be restricted to a particular situation under study; they must be generalized. It is necessary to offer and to produce new knowledge about a phenomenon (digital conversion and access) or about an area (digital preservation), organizing this new knowledge in relation to what is already known about the area or phenomenon.

For the development of our multidisciplinary research we have been adopting historical, statistical, quantitative, qualitative, infographic and, especially, comparative methods. Along with these methods, we have been using specific techniques of data collecting. In action research, the organization's members themselves, who wish to enact procedural or organizational changes, will be participating in the definition and establishment of the new models they themselves demand, and these new models will eventually transform the procedures of the group as a whole.

Throughout our digitization process there is the need to know the possible contexts of production and reception of the converted products: the documents in their digital version. We need to know the current, desired context of moving image digitization and the current, desired context of a user's demands and needs. However, information about the original material is also necessary for successful digitization. From the original files, we can extract valuable information such as understanding how material was made, what the user experience of the original material was, what the cultural context was and what the associated value was. In order to gain this knowledge, we adopt indirect documentation techniques (for bibliographic searches), direct documentation techniques (through intensive observation, such as technical visits to see collections, contacting institution members, examining facts and phenomena) and extensive observation (printed questionnaires, online forms, tests). By obtaining a solid understanding of the original analogue materials, we gain a clearer understanding of their history, which is necessary when it comes to marketing the materials for future use.

Our perspective does not see the subject as an extension of the object; it sees the subject as action, as social and historical: although determined by economic, political and cultural contexts, the subject is the creator of the social reality and the transformer of these contexts (Gamboa, 1989, p. 103). Based on the conception of materialist dialectic, our fundamental epistemological category is the 'totality': the universal predominance of the whole over the parts, the universal anthropological determination of the sense of history (Fleischer, 1978). Our theoretical-methodological perspective comes from the Marxian theory of consciousness (Marx and Engels, 1986). Understanding information as a process oriented to the expansion of consciousness is a way to keep questioning ourselves on matters of social relations, and on intersubjective relations, replacing the issues of power, history and culture, as suggested by Chauí (1999). By granting wider access to audiovisual records through digitization, we share more information with a larger number of people and thus help democratize society. Audiovisual records help transform and educate societies, and by digitizing these records, we can reach a wider audience and promote the values (whether social, political, cultural, historical) and meaning of these audiovisual materials.

Menezes (1998) asks: What is the nature of the material object as a document? In what lies its documental capacity? How can it be the base (the support) for the information? Or what kind of intrinsic information might the artefacts contain, especially if we are talking about historical content? He analyses the permanent transformation by which even the objects are subjects, in their morphologies, in their functions, in their meanings, isolated, switched or in a cumulative manner. Material objects, he maintains, have a history, a biography. The intention of studying them is not to reset a material scene but to understand the artefacts in terms of social interaction. The biography of objects, as he proposes, introduces a new problem: the biography of the people within the objects (pp. 1, 3, 5, 6).

Referring to the 'sociological category of historical objects' – whose commitments are essentially with the present time, as they are produced or reproduced as a category of object in the present, and it is to the needs of the present that they respond – and to the 'cognitive category of historical document', Menezes (1998, p. 94) offers elements to justify and organize the dialectical thinking that is the theoretical basis of our research.

Progress and preliminary findings

Following the first SOIMA course, in Rio de Janeiro in 2007, we published an article addressing audiovisual preservation training in Brazil (Hollós and Silva, 2008). We also worked with the Information Science team at the Instituto de Ciência da Informação da Universidade Federal da Bahia (ICI-UFBA) to develop a curriculum that included audiovisual information which previously did not exist. Since the SOIMA course, we have gathered data from 62 public institutions, organizations and sectors and also from three private organizations. The collected data started being analysed in August 2015.[4]

Besides data collection, one of the project's main goals is to create an online archive to be used to access digital versions of audiovisual items from public collections. Through the Iniciativa Legatum we are working to create an open-repository, multilingual, collaborative platform based on AtoM (Access to Memory) software, called Repositório Legatum – Sonus et Imago (or simply Legatum).[5] It is compatible with international archive standards, recognized by the International Council on Archives.

Legatum will gather and disseminate referred items from countries that have Portuguese, Spanish, Catalan, Galician, Romanian, French or Italian as an official language. The goal is to identify public institutions which hold audiovisual collections and to describe their collections. This would allow us to elaborate a differentiated view of this heritage, emphasizing newly obtained knowledge. Legatum is an empirical experiment, a useful product to the researcher interested in accessing digital audiovisual items and their correlated materials, but it is also an initiative that gives us an opportunity to think about information, culture and representation.

Actions in development

Initial analysis of the project survey data reveals substantial needs in Brazilian audiovisual archives. In some cases employees are not properly prepared to characterize the collections they work with (Fig. 1). In some institutions they do not even know whether there is a specific format or carrier in the collection, because they do not know if it exists or, worse, they do not know how to identify it. This is because the institutions do not offer the conditions to the employees to attend workshops or specialized courses (Fig. 2). Some institutions do not have even a disaster plan for their collections (Fig. 3). Others keep digital masters only on their computer hard drives (Fig. 4).

The initial reason for limiting Legatum to the previously mentioned seven languages was to make it comprehensive but manageable. We originally thought about an exclusive Lusophone space, but in the end we believed that there would not be problems in extending it to some other

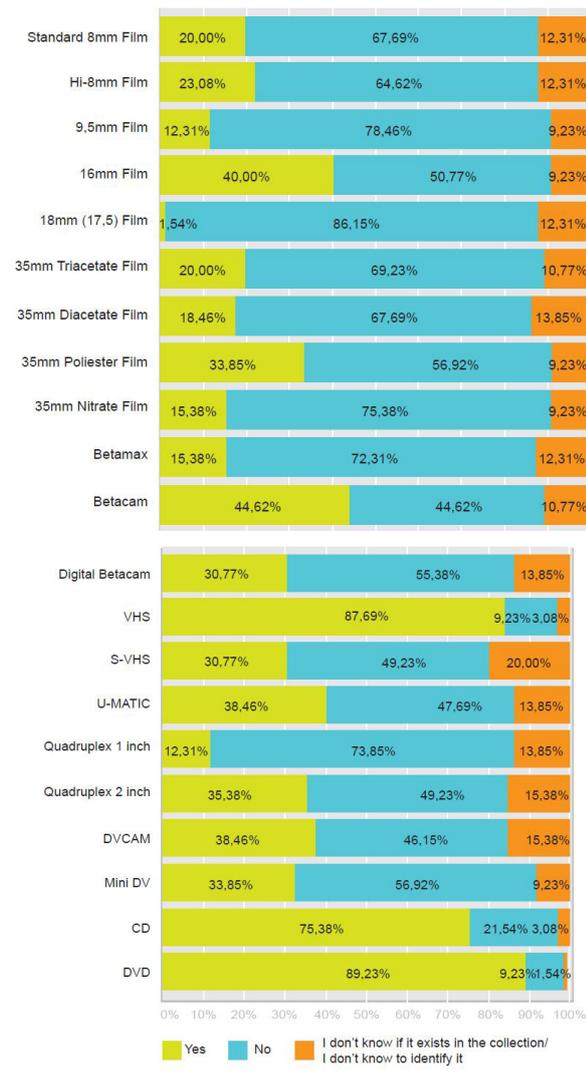|	Yes	No	I don't know if it exists in the collection / I don't know to identify it
Standard 8mm Film	20,00%	67,69%	12,31%
Hi-8mm Film	23,08%	64,62%	12,31%
9,5mm Film	12,31%	78,46%	9,23%
16mm Film	40,00%	50,77%	9,23%
18mm (17,5) Film	1,54%	86,15%	12,31%
35mm Triacetate Film	20,00%	69,23%	10,77%
35mm Diacetate Film	18,46%	67,69%	13,85%
35mm Poliester Film	33,85%	56,92%	9,23%
35mm Nitrate Film	15,38%	75,38%	9,23%
Betamax	15,38%	72,31%	12,31%
Betacam	44,62%	44,62%	10,77%
Digital Betacam	30,77%	55,38%	13,85%
VHS	87,69%	9,23%	3,08%
S-VHS	30,77%	49,23%	20,00%
U-MATIC	38,46%	47,69%	13,85%
Quadruplex 1 inch	12,31%	73,85%	13,85%
Quadruplex 2 inch	35,38%	49,23%	15,38%
DVCAM	38,46%	46,15%	15,38%
Mini DV	33,85%	56,92%	9,23%
CD	75,38%	21,54%	3,08%
DVD	89,23%	9,23%	1,54%

FIGURE 1. Initial results of survey data on formats and carriers in Brazilian audiovisual collections.
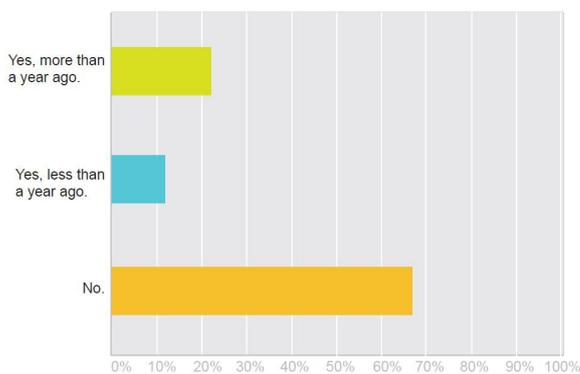

FIGURE 2. Responses to the survey question: Has any employee participated in courses on the treatment of moving image collections?
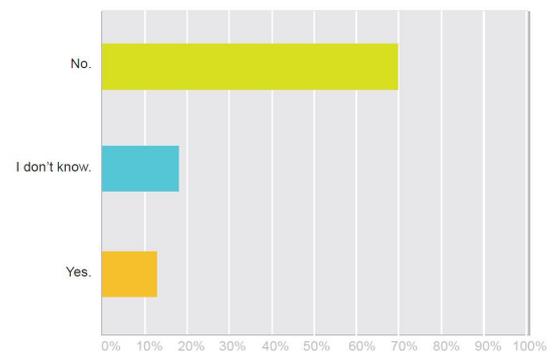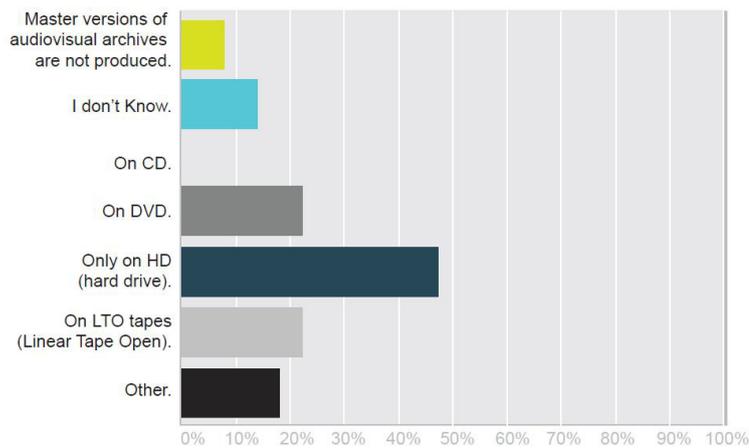

FIGURE 3. Responses to the survey question: Is there any institutional disaster plan for analogue audiovisual documentation?

Romance languages. We find it interesting to demonstrate that there is something in common among countries which have Romance languages, even on different continents, because a language can reveal a lot about a culture. This initial decision may be a rich base on which

to develop future studies – not only those with an archival aspect but also ones that consider other social, economic, historical or linguistic influences. We could use, from the beginning, the English language to insert data, but then we would have just a repository in which entering data would

FIGURE 4. Responses to the survey question: How are digital masters (the higher resolution version of each item produced) stored?

FIGURE 5. Legatum repository interface. From www.legatum-si.net

be constricted to one sole idiom. It could be a good idea, no doubt, to offer universal facilitated access, but there are other repositories that have this goal. The European Union, for instance, has the Europeana, and the United States of America has something similar with the OCLC/WorldCat project. We assume that some small archival institutions, with fewer resources, will insert data more easily into Legatum if they can do it using their native language. The option for the Latin culture comes from the feeling that reaching a larger portion of the universe would be easier than if we had chosen any other country. But if Legatum is only possible using a single language for description, we can do it (Fig. 5).

Conclusions

Legatum represents a low-cost/low-risk technological solution, although it requires hard work in order to convince the institutions to join in its development efforts. Soon Legatum will incorporate Archivematica, an open-source digital preservation system recommended by National

Archives of Brazil.[6] We will also have the fundamental support of the UFBA Supervision of Information Technology (STI). Another essential partnership is the Brazilian Network of Digital Preservation Services (also known as the Cariniana Network), from the Brazilian Institute of Information in Science and Technology (IBICT).[7]

Since this type of inter-institutional collaboration does not have a long history in Brazil, one of our greatest challenges has been convincing institutions to be a part of this project and adhere to our proposals. Perhaps this is one of the most interesting points for the originality of our research: it is a new model of an inter-institutional relationship, bringing benefits and gathering efforts through a Federal University research group.

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6   See www.archivematica.org/en/.
7   See http://cariniana.ibict.br/.

We remain open to broader collaborations to accomplish something of international reach, without idiomatic restriction, to include all languages, creating another general repository. The Legatum initiative can have more than one repository; it can have a thesaurus and other tools. With inter-institutional collaboration, we believe Legatum will become a testament to how digitization allows for the safeguarding of sound and image collections and enables easier access by a larger number of users.

We established a set of other goals in our research project, such as training technical and academic teams, developing online courses and even creating a professional master degree on safeguarding moving images. If we can dream about it, we will do it, but it takes cooperation and support from entities such as ICCROM to help make those dreams come true.

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