InterPARES 2 Project

International Research on Permanent Authentic Records in Electronic Systems

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A. Overview of Case Study

Summary

This case study details the nature and challenges for archiving a Web site produced by Legacoop of Bologna, a business association cooperative. The Web site could fall into the category of e-government as to its function if not as to its nature: Legacoop is indeed an institutional player in the local socio-economic system and provides a range of services to its member cooperatives. For this reason, several of the challenges presented by the long-term preservation of this Web site and the possible solutions would be relevant to the e-government focus. However, the specific goal of this case study is to explore the policy issues that arise when a Web site containing interactive private records is preserved over the long term.[1]

Nature of the case study

The Legacoop Bologna Web site[2] is a tool created to increase cooperation with the city and among associate companies. It offers detailed and specialized information on the cooperative's environment and facts about the economic and social situation within the local territory. The Web site provides four services:

1. subscription to a newsletter, published both in Italian and English;

2. posting of job advertisements for all member companies of the cooperative;

3. a restricted area accessible only to specific employees of member companies for online job applications (this area includes all related documents); and

4. access, within the restricted area, to advisories and guidelines produced by Legacoop consulting services.

The site also provides links to many useful resources, summarized below.

Services

Services offered to associate companies, including online ones, are listed and described. Contact information for service managers is provided. A restricted area allows access to online interactive services.

Who we are

Summary information about the history, the people and the values of Legacoop, outlining the association and its role in Bologna.

News

An up-to-date review of the news media relevant to decisions made by the administration. This area also includes news on events organised by Legacoop and member cooperatives.

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[1] The organization of the research of the InterPARES 2 Project included three foci: artistic, scientific and e-government. It also included a group looking specifically at policy. Further information about the organization of the InterPARES 2 Project is available at http://www.interpares.org.

[2] Available at http://www.legacoop.bologna.it.

Projects

This area outlines developing projects, projects for the cooperatives and the city, employment initiatives, the new generation, and innovative business activities. Related, interactive documentation is available in the restricted area.

The network

This area gives an overall view (i.e., from home to consumer, from cultural to social services) of Bologna's vast cooperative network.

Newsletter

This offers news updates on cooperative initiatives and events and is reserved for mailing list subscribers.

This case study poses a number of interesting challenges to archivists because the Web site presents static and dynamic information. It constitutes an essential instrument for maintaining what might be called the cooperative network of its members. It also serves both the general public and provides enhanced services to its members in the restricted area. From a preservation viewpoint, this complex Web site presents all the problems connected with preserving its authenticity over the long term. From a policy viewpoint, it provides a good starting point for conceptualising the policy issues presented by the preservation of digital material of a private organization that behaves very much like a government. Thus, findings from this case study will address research questions related to both the Policy Cross-domain and the e-government Focus of the InterPARES 2 Project.

B. Statement of Methodology

The case study was carried out in collaboration with the Italian Cooperation and Social Economy Archive Centre. This Centre, established in Bologna, Italy, in 1988 and operating with the help of Legacoop, is now nationally recognized for its documentary materials on the cooperative movement and the social economy. The paper archives are digitized and specialized archival personnel serve users conducting research. In addition to its archival activities, the Centre also promotes and hosts an annual programme of conferences and cultural meetings.

The activities of the Centre have been analyzed to understand what activities of Legacoop have been wholly transformed into on-line activities and to understand the juridical-administrative, provenancial, procedural and documentary contexts in which the creator operates.

An extensive series of interviews were conducted by Maria Guercio with

- Elena Romagnoli, Director of the Archives and responsible for Legacoop's recordkeeping and archival system;
- Mattia Miani, Legacoop's communication manager, responsible for the Web site organization and functionalities; and
- the Information Technology (IT) specialists involved in the maintenance of the tool.[3]

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[3] Maria Guercio is a member of the InterPARES European Team and of the Policy Cross-domain.

The interviews were conducted to understand the technological context and to answer the 23 questions.[4] Maria Guercio carried out the case study and wrote the final report, which was reviewed and approved by the Legacoop staff. This case study has been conducted in parallel with ERPANET case study activities.[5]

C. Description of Context

Provenancial Context

A cooperative is an autonomous enterprise of persons united voluntarily to meet common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise. Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others. Cooperatives represent an alternative economic model to the free economy, which is based on individual profit. Success of a cooperative is measurable depending on the degree of mutuality, solidarity, democracy and pluralism reached by its members.

Legacoop Bologna is an association of enterprises operating in the Bologna area to promote the development of cooperation and mutual aid, to stimulate economic relationships among member cooperatives, and to spread cooperative principles and values. Legacoop Bologna represents over 300 companies with a total of nearly 32,000 employees and 800,000 members, and has an annual budget of 5.5 billion Euros. It is the provincial network of the national Legacoop.

The constant increase in membership, employees and turnover of the Legacoop Bologna cooperatives demonstrates the immense and innovative advances that the Bolognese cooperatives are making.

Specifically, Legacoop Bologna:

1. acts as the local representative of the national Legacoop, particularly with regard to relationships with public institutions and other major economic and social agents in the province;

2. offers high quality services to associate companies, ranging from tax assistance to employment legislation;

3. promotes the creation of new cooperatives in different sectors; and

4. inspects associated cooperatives at a legal level.

In addition to these activities, Legacoop Bologna coordinates and promotes a series of projects to strengthen the solidarity of the cooperative network.

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[4] The InterPARES 2 Project developed a common set of 23 questions which had to be addressed by all case studies. These questions are related with this case study's responses to them, below.
[5] For further information on ERPANET, see http://www.erpanet.org.

Juridical Context

In the Italian juridical system it is necessary to stress that Legacoop is a private company. Statutory requirements for records systems (both paper-based or electronic) of private companies are not as strict as they are for public administrations. The civil code defines a very limited number of records to be preserved for the long term. These include the minutes of the management board and the incorporation documents (statute), while the financial, business, and fiscal records have to be kept for five or ten years, according to the related functions. Any record can be produced or copied and kept in electronic form according to the rules established by the Act 445/2000.[6] Digital signatures are required for all dispositive and probative digital records, in both private and public sectors, including where digitized records are substituted for paper originals. There are no such legal requirements for supporting and narrative records, in which categories the records present on the Legacoop Web site may be considered.

Legislation requires Legacoop Bologna to hold an annual assembly of the chairs of the various member cooperatives to define the association's work plan. This assembly is the association's main decision-making and goal-setting body. Every four years this assembly elects a Board of Directors, a Chair, a Board of Auditors, and a Committee of Guarantors.[7]

The Chair is the association's legal representative and is responsible for all external relations. The Board of Directors consists of a minimum of 40 and a maximum of 50 members, so that all members of the Bolognese cooperative can be represented. Its main responsibilities are to: put into effect the strategic policies established by the Assembly, adopt the promotional goals set for the cooperative, and approve the Association's final and projected annual accounts. The Board of Directors elects from its members a Management Committee consisting of between seven and eleven members, plus the Chair, who are responsible for managing the Association. The Management Committee elects a deputy vice chairman to take the chairman's place whenever this proves necessary and a general director to assist the Chairman in the business of managing the association.

Finally, the statute calls for a Board of Auditors to examine the accounts, and a Committee of Guarantors responsible for settling disputes between Legacoop Bologna members and Legacoop Bologna itself and the interpretation of the statute and the ethical values it is based on.

The approximately thirty Legacoop Bologna staff are organized in several offices including the financial and tax advisor, services of labour legislation advisor, social politics, logistics, facility management and transportation enterprises, communication and external relations, culture and training.

The Legacoop was legally recognized as representative association for cooperative enterprises in 1947.[8]

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[6] Italy. Testo unico delle disposizioni legislative e regolamentari in materia di documentazione amministrativa. [Single Text of Legislative and Regulatory Provisions Regarding Administrative Documentation] Decreto del Presidente della Repubblica 28 dicembre 2000, n. 445.

[7] See http://www.legacoop.bologna.it/valori/statutoEng.asp.

[8] Art. 5 Decreto Legislativo del capo provvisorio dello Stato, 14 dicembre 1947, n. 1577- Provvedimeti per la cooperazione (Pubblicato sulla Gazzetta Ufficiale n. 17 del 22 gennaio 1948).

Legacoop adheres to the International cooperative alliance (ACI). ACI synthesized the cooperative principles approved at the XXXI Congress of Manchester in 1995.[9] In the same year the Lega Nazionale delle Cooperative e Mutue (National Cooperative League) also decided to create a cooperative values paper to provide a point of reference for any cooperative member.[10] The social value of cooperatives is recognised by the United Nations Assembly, which passed a resolution, together with the ACI, to introduce a worldwide cooperation day.

Procedural and Documentary Contexts

The Legacoop of Bologna Web site is a tool created for increasing cooperation with associated companies. For this reason, it has been conceived as a separate entity from Legacoop Bologna's regular business procedures. The Web site's growing use and increasing potential have resulted in procedural changes, even though these are not yet clearly expressed in the internal policies. Although, initially, most recorded information present on the Web was an electronic duplicate of information/records existing in the paper environment, an increasing portion is now original and more relevant than the records preserved in the recordkeeping system.

The Web site is technically managed by an external Web agency that provides the necessary infrastructure, posts the data and provides the technical and graphic development and maintenance of the site. Legacoop manages all this internally through an editorial system that allows Web pages to be updated without directly modifying the code. This system is manageable by non-expert personnel and controls the interaction of the different offices that participate in the management of online documents. These offices are:

- the Communication Office, which is responsible for the overall management of the Web site, as well as keeping the homepage, the news in the public area, the associates' area, and some other static pages up-to-date;

- the Information Technology Office, which is responsible for the restricted area of the Web site, for putting service contents (i.e., fiscal and labour circulars), online, and for assisting the internal and external users;

- the Industrial Relations Office, which is responsible for the job section and the Curriculum Vitae (CV) database; and

- the General Secretary, which is responsible for updating the agenda content on the intranet.

Legacoop Bologna's official recordkeeping system is separate from the Web site. The company has a registry system used to identify documents. The general secretary and the secretary for the fiscal and labour consultancy services, both in the general secretariat, register and preserve the incoming and outgoing records. These two secretaries use the same criteria but work in parallel, dividing their work by themes.

There are no formal rules in place for document registration but generally all paper mail is registered, including general mail sent to the organization and that sent directly to officials.

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[9] See http://www.legacoop.bologna.it/approfondimenti/default.asp?id=9.
[10] See http://www.legacoop.bologna.it/valori/defaultEng.asp.

Advertising materials and publications are not registered. The electronic mail sent to the organization's official e-mail address (info@legacoop.bologna.it) is registered only when functionaries judge the message of a certain importance. It is very often printed, partly for distribution to personnel who do not use a computer. Registration is facilitated by an automated application to register the records. This application only provides a profile of the registered incoming and outgoing documents, recording the following metadata:

- classification code
- object
- type of document
- recipients
- date

The originals are then filed in folders organized on a very simple classification scheme. The electronic recordkeeping system allows shared folders to avoid the duplication of paper records. This functionality is used informally and it is not considered part of the records system.

Apart from the general registry, there are special rules for keeping relevant fiscal and financial records, the communication materials and research documents made by the Legacoop as well as other working documents. These kinds of records are normally preserved for ten years, in accordance with legal obligations.

In general, digitization activities (i.e., the scanning of paper documents) are primarily driven by access and use requirements. As such, there are no real policies or strategies for the long-term preservation of digital resources. With the increasing reliance on the Web site, and the quantity of the material published there, the organization realized it needed to plan its records/documents/ information flows in relation to the Web site. Special attention should be drawn to the access policy and on the control of the integrity of the information published on the Web. Access issues are managed using expedients aimed at minimizing the possibility of altering documents archived in the editorial system and published online. These expedients are based on a very simple password control system. No other controls or systems (e.g., digital certificates), are in place to guarantee the authenticity of what is online and the paternity of the actions performed. It is common practice to assume that what is published on the Web site must be official, but the staff are increasingly aware that better tools need to be put in place to prevent unauthorized alterations and to be able to monitor access. The authorship of the document can be retrieved because it is associated to the password system. This system only verifies and validates the information at the moment it is posted and cannot guarantee its integrity over time. Even if access could be monitored, this system would not be able to identify any unauthorized modifications.

There are no controls on the content of published documents except for what is prescribed by professional deontology of those responsible for any publication. No other defined audits or controls over documentary production are performed on the digital resources on the Web site.

Technological context

The system consists of a custom Web site content management application operating on Unix and Windows servers. The Web site is built to operate correctly with systems using Microsoft Internet Explorer version 5.0 or later. Once digital records are transformed into Web pages, it is possible to access them online by following the published navigation paths or using the internal

search engine. A site map shows the organization of the Web site. Paper copies are produced where the digital records are believed to have a juridical value, but some information exists only in the form published on the Web site. The Web site is based on standard coding languages selected for interoperability. The metadata are those connected with the standards used. Files are assigned names automatically through the editorial system, according to precise rules: files are assigned a progressive identifier according to the category of information they belong to, a process that is transparent to users.

D. Narrative Answers to the 23 Core Research Questions

1. **What activities of the creator have you investigated?**

    The activities related to the creation and maintenance of the Bologna Legacoop Web site as described in the case study Overview. The main activities analyzed are: (1) subscription to a newsletter (both in Italian and English), (2) publishing, in its restricted area, of explanatory documents produced by Legacoop consulting services, (3) job advertisements for every member company of cooperative enterprises, and (4) on-line job applications.

2. **Which of these activities generate the digital entities that are the objects of your case?**

    The main activities of this study concern the publishing of the newsletter and the Legacoop documents published in the restricted area of the Web site. Both areas are becoming, without a sufficient control and awareness of the company, central repositories of recorded information that is not present in any other form within the creator's records system.

3. **For what purposes are the digital entities you have examined created**

    The Web site was created in 2002 to furnish information, documents and services to the associated partners. A reserved area was added at the end of 2002 to provide members with access to records such as circulars, regulations, final reports of the assemblies, etc. A database with CVs of users is a new functionality made available at the end of March 2003 for the member organizations, together with a newsletter in which Web site users can publish announcements.

4. **What form do these digital entities take? (e.g., e-mail, CAD, database)**

    The Web site consists of html pages. These pages draw from a database system (which supports the research function), images, text files including e-mails and the newsletter. An external database application connects the newsletter to the user list.

    4a. What are the key formal elements, attributes, and behaviour (if any) of the digital entities?

    All the entities have a title, body text and a date. Each element is numbered sequentially in chronological order.

4b. What are the digital components of which they consist and their specifications?

The Web site is a document created using html and JavaScript. It includes e-mail messages and text files converted to html format.

4c. What is the relationship between the intellectual aspects and the technical components?

The technical components of the Web site reflect the logical structure of the system as described in the previous points: newsletter, CVs and documents are expressed as html text, while the research system is supported by a database that identifies each digital entity.

4d. How are the digital entities identified (e.g., is there a [persistent] unique identifier)?

Sequential file numbering forms the primary key in the database and is the main identification attribute. It is connected with a date, although this date is not considered to be a key attribute of the digital entity.

4e. In the organization of the digital entities, what kind of aggregation levels exist, if any?

The entities are aggregated according to the main logical categories of the site (i.e., documents of the association, news from the cooperative world, CVs and announcements, and other services related to the Bologna business area).

4f. What determines the way in which the digital entities are organized?

Usability requirements form the exclusive basis for the organization of the digital entities. Some publishing requirements defined by the Legacoop's agreement with the agency running the Web site can determine some of the Web site's internal organization.

5. How are those digital entities created?

There are no specific criteria or controls on the creation of the digital entities. A publishing application guarantees the external coherence of the pages. The connections to the paper records provided by the records system are very weak even for those paper records that are digitized and published to the Web site. Some entities are directly created and posted by the authors (e.g., CVs), while the newsletter is prepared by an editorial board as html pages.

5a. What is the nature of the system(s) with which they are created? (e.g., functionality, software, hardware, peripherals, etc.)

The system consists of a custom editorial application to manage Web site content, operating on Unix and Windows servers. The system for the newsletter is called "BIGFILE" and is used by the agency running the Web site.

5b. Does the system manage the complete range of digital entities created in the identified activity or activities for the organization (or part of it) in which they operate?

Yes, the specification is described above.

6. **From what precise process(es) or procedure(s), or part thereof, do the digital entities result?**

   The creation or the updating processes are based on the editors' responsibilities. Each editor has to compile a form organised as a set of fields. Access to the system to add or update documents is password-based.

7. **To what other digital or non-digital entities are they connected in either a conceptual or a technical way? Is such connection documented or captured?**

   The digital entities are not connected in any formal way to non-digital systems, specifically to the records system, even if in many cases some records exist only in digital form on the Web site. The link, if any, is ensured only by the common provenance of Legacoop.

8. **What are the documentary and technological processes or procedures that the creator follows to identify, retrieve, and access the digital entities?**

   The digital entities are created out of the procedures indicated in the response to question six, above. After their compilation, each entity is uploaded to the Web site and can be accessed using the search engine and browser functionalities. The logical structure of the digital entities is based on the Web site categories.

9. **Are those processes and procedures documented? How? In what form?**

   No.

10. **What measures does the creator take to ensure the quality, reliability and authenticity of the digital entities and their documentation?**

    Professional standards, ethical behaviour and informal quality and integrity controls are the only tools, weak indeed, to ensure quality, reliability and authenticity of the entities present on the Web site.

11. **Does the creator think that the authenticity of his digital entities is assured, and if so why?**

    No. For this reason, policies setting out procedures, tools, and requirements for authenticity are in development.

12. **How does the creator use the digital entities under examination?**

    For the moment, the digital entities are not considered of the same value and reliability as the paper records, even if in many cases they are the only evidence of Legacoop activity. The probative and dispositive records are still created in a traditional environment.

13. **How are changes to the digital entities made and recorded?**

    Each sector, based on its password controlled access, is free to create, change or transform the digital entities for which it is responsible. Legacoop has not yet implemented specific rules to ensure continued control although an audit trail exists

14. Do external users have access to the digital entities in question? If so, how, and what kind of uses do they make of the entities?

Some entities (e.g., the newsletter) are open to visitors (i.e., external users). Access to other entities (e.g., the CV service), is limited to internal users, who can search the Web site for information for any legitimate purpose. Legacoop offices have access to all resources.

15. Are there specific job competencies (or responsibilities) with respect to the creation, maintenance, and/or use of the digital entities? If yes, what are they?

A specific knowledge of the custom editorial application for the Web site is the only competence required.

16. Are the access rights (to objects and/or systems) connected to the job competence of the responsible person? If yes, what are they?

Yes. Each service is responsible for the documents and digital entities it uploads to the Web site. The responsible person within each service has a specific password managed by a database controlled by the agency running the Web site.

17. Among its digital entities, which ones does the creator consider to be records and why?

Parts of the information published, specifically the results of events, assemblies, meetings, etc., are sometimes the only recorded information available and are supporting or narrative records.

18. Does the creator keep the digital entities that are currently being examined? That is, are these digital entities part of a recordkeeping system? If so, what are its features??

No. As already described, at this point the records system is not related to the Web site system.

18a. Do the recordkeeping system(s) (or processes) routinely capture all digital entities within the scope of the activity it covers?

Not applicable.

18b. From what applications do the recordkeeping system(s) inherit or capture the digital entities and the related metadata (e.g., e-mail, tracking systems, workflow systems, office systems, databases, etc.)?

Not applicable.

18c. Are the digital entities organized in a way that reflects the creation processes? What is the schema, if any, for organising the digital entities?

Not applicable.

18d. Does the recordkeeping system provide ready access to all relevant digital entities and related metadata?

Not applicable.

18e. Does the recordkeeping system document all actions/ transactions that take place in the system re: the digital entities? If so, what are the metadata captured?

Not applicable.

19. **How does the creator maintain its digital entities through technological change?**

[No response was provided to this question.]

19a. What preservation strategies and/or methods are implemented and how?

No explicit or formal preservation strategies exist. The Web site is based on standard HTML language, considered adequate for the preservation requirements, especially for migration.

19b. Are these strategies or methods determined by the type of digital entities (in a technical sense) or by other criteria? If the latter, what criteria?

The use of HTML is a positive, but clearly insufficient, consequence of the standard used to create the entities.

20. **To what extent do policies, procedures, and standard currently control records creation, maintenance, preservation and use in the context of the creator's activity? Do these policies, procedures, and standard need to be modified or augmented?**

As outlined in the review of the procedural and documentary context above, the records system is well organised but does not include the Web site contents. The system consists of a registry system and a basic classification scheme applied to the main records. These components are not required by legislation. No similar controls exist to manage the digital entities published on the Web site. The creator considers the development of an integrated policy in this area a crucial issue for the near future.

21. **What legal, moral (e.g. control over artistic expression) or ethical obligations, concerns or issues exist regarding the creation, maintenance, preservation and use of the records in the context of the creator's activity?**

The creator has no obligations other than ethical ones relating to the correctness of what is available on the Web site.

22. **What descriptive or other metadata schema or standard are currently being used in the creation, maintenance, use and preservation of the recordkeeping system or environment being studied?**

The registry system requires some basic metadata, outlined above in the documentary context. This data are not exported to manage the Web site, which assigns only a number and date to each digital entity. The standards used are those required by the use of the HTML markup language.

23. **What is the source of these descriptive or other metadata schema or standards (institutional convention, professional body, international standard, individual practice, etc.?)**

The metadata included are strictly related to the professional standard followed for building the Web site (i.e., SQL for the database and HTML for the Web pages).

E. Narrative Answers to Applicable Domain and Cross-domain Questions

Domain 1

1.5 As government and businesses deliver services electronically and enter into transactions based on more dynamic Web-based presentations and exchanges of information, are they neglecting to capture adequate documentary evidence of the occurrence of these transactions?

There is no doubt that insufficient documentary evidence is being captured for dynamic Web-based entities. The creator, who pays attention to its traditional records system, has not yet focused on Web-based entities with the same attention to the reliability and integrity of the information involved.

1.6 Is the move to more dynamic and open-ended exchanges of information blurring the responsibilities and altering the legal liabilities of the participants in electronic transactions?

The responsibilities for controls on the integrity of the entities are not clearly identified. Legacoop Bologna has not yet evaluated its Web site as a system for storing probative and dispositive records, even if some of the entities present on the Web site could have these characteristics and may not exist in any medium within the context of the existing records system.

Domain 2

2.7 (a) Do the participants in electronic transactions have shared access to reliable and accurate information about the terms and effects of the transactions? (b) What would constitute reliable and accurate records of transactions in current electronic service delivery initiatives?

Supporting and narrative records are clearly present in the Web site system. Because of the absence of controls on integrity their reliability is not assured.

2.8 What would be the consequence of issuing guidelines for record creation on the nature of the records of each activity?

The need for a policy to guide record creation is well understood by the creator. Legacoop intends to prepare a manual for documentary procedures to manage its Web site content.

2.10 What technological and intellectual tools would assist creators to generate records that can be authentically preserved over time?

The creator plans to extend its existing records system tools (i.e., registry, classification scheme, descriptive and management metadata), to ensure the authentic preservation of its new Web-based digital entities.

2.11 What legal or moral obligations exist regarding the creation, use and preservation of the records under investigation?

Moral obligations arise only after the deficiencies of the system are analyzed. The need to preserve authentic records and make them available on the Web site is considered an essential requirement.

Policy Cross-Domain

4.1 (a) To what extent do policies, procedures, and standards currently control records creation, maintenance, preservation and use in each focus area? (b) Do these policies, procedures, and standards need to be modified or augmented?

The policies in place are insufficient, while the standards used are limited to the basic format of the entities and are not judged to be adequate by themselves. It is necessary to develop a manual for documentary and archival procedures that clearly defines responsibilities for any phase of records creation and management and identifies all the metadata necessary to verify and control the preservation process.

F. Bibliography

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