InterPARES 3 Project

International Research on Permanent Authentic Records in Electronic Systems

TEAM Catalonia

The Preservation of Vital e-Records in Universities

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- **1. Contextualization of the research**
  - (1) the Spanish and Catalan legislation and the international norms and standards deemed relevant to the issues at hand:
    - » 1.1.1 Relevant legislation
    - » 1.1.2 Relevant norms
  - (2) the development of e-administration in universities in Spain and Catalonia.
  - (3) vital records, vital records programs and the implementation of such programs.
- **2. Analysis of the preliminary findings**

- **1.1 - Spanish and Catalan legislation and the international norms and standards**
  - **1.1.1 - Relevant legislation** (Spanish / Catalan)

To date, the following Spanish and Catalan legislation has been identified as being relevant to the creation, maintenance, use and preservation of electronic university records in Spain and Catalonia...

- **General & Common Administrative Procedures**
  - Spanish Constitution, of 27 December 1978 (BOE no. 31, de 29.12.1978)
  - Organic Law 6/2006, of 18 July 2006, on the Reform of Statute of Autonomy of Catalonia (BOE no. 172 – 20/07/2006)
  - Law 30/1992, of 26 November 1992, on Public Administrations and Common Administration Procedures (BOE no. 285, de 27.11.1992).
  - Organic Law 6/2001, of 21 December 2001, of Universities (BOE no. 307 - 24/12/2001 p. 49400), modified by Organic Law 4/2007, of 21 April 2007 (BOE no. 89 - 13/4/2007 p. 16241)
  - Law 1/2003, of 19 February 2003, Universities of Catalonia (DOGC no. 3826 - 20/02/2003 p. 3326)

- **1.1 - Spanish and Catalan legislation and the international norms and standards (II)**
  - **Digital Records and Access**
    - Law 59/2003, of 19 December 2003, digital signature (BOE no. 304, de 20-12-2003, pp. 45329-45343)
    - Law 11/2007 of 22 June 2007, on electronic access of citizens to public services (BOE no. 150 de 23/6/2007)
    - Decree 56/2009, of 7 April 2009, for the impulse and the development of electronic means to the Administration of the *Generalitat* (DOGC 31430 C 5360 – 16.4.2009)
  - **Protection of Personal Data**
    - Organic Law 15/1999 of 13 December 1999on the Protection of Personal Data (BOE no. 298, de 14-12-1999)

- **1.1 - Spanish and Catalan legislation and the international norms and standards (III)**
  - **Documentary Heritage**
    - Law 16/1985, of 25 June 1985, on the Spanish Historical Heritage (BOE no. 155, de 29.06.1985)
    - Law 9/1993, of 30 September 1993, on the Catalan Cultural Heritage (DOGC no. 1807, d´11.10.1993)
  - **Records management and Archives**
    - Law 10/2001, of 13 July 2001 of archives and records (DOGC no. 3437, de 24.7.2001)
    - Decree 52/2006, of 28 March 2006, on composition and operation of the National Archives Council (DOGC no. 4604, de 30.03.2006)

- **1.1 - Spanish and Catalan legislation and the international norms and standards (IV)**
  - **Appraisal (Access)**
    - Decree 13/2008 of 22 January 2008, on records access, appraisal and selection (DOGC no. 5056, de 25.1.2008)
    - Order of 15 October 1992, passing the general criteria for records appraisal and selection and the corresponding proposal model (Official Journal of the Government of Catalonia (DOGC no. 1688, of 30/12/1992)
    - Order of 13 January 1994, on the National Records Appraisal and Selection Committee teams (DOGC no. 1865, de 25.2.1994), modify by Order of 2nd of February of 2001 (DOGC no. 3328, de 15.02.2001)
    - Order of 8 February 1994, for adopting rules for the implementation appraisal and selection schedules (DOGC no. 1865, de 25.2.1994)

- # 1.1 - Spanish and Catalan legislation and the international norms and standards

  – ## 1.1.2 - Relevant norms and standards

The following international norms and standards have been identified as being particularly relevant to the research at hand:

- ISO 15489-1. Information and documentation: records management. Part 1: General. (UNE-ISO 15489-1:2006)
- ISO 15489-2. Information and documentation: records management. Part 2: Guidelines (UNE-ISO/TR 15489-2:2006)
- MOREQ 1 – Modelo de Requisitos para la Gestión de Documentos Electrónicos de Archivo: Especificación MOREQ
- MOREQ 2 – Model Requirements Specification for the Management of Electronic Records
- ISO 14721:2003 Space data and information transfer systems — Open archival information system -- Reference model
- ISO 19005:2005 - Document management — Electronic document file format for long-term preservation — Part 1: Use of PDF 1.4 (PDF/A-1). Requirements
- ISO 23081-1:2006 Information and documentation — Records management processes — Metadata for records — Part 1: Principles
- ISO/TS 23081-2:2007 — Records management processes — Metadata for records — Part 2: Conceptual and implementation issues.
- *Norma de Descripció Arxivística de Catalunya (NODAC), 2007*

- **1.2 - Development of e-Administration (e-Government) in universities (Spain and Catalonia)**
  - **Spanish universities**:
    - Rectors of Spanish Conference Universities (CRUE)
      - Commission of Information and Communication Technologies (CRUE-TICS)
      - Commission of General Secretaries:
        - » Conference of Archivists of Spanish Universities (CAU): Team

- **Catalan universities**:
  - Catalan Association of Public Universities **(ACUP) - Universitat de Catalunya:**
  - **White Paper** on the University of Catalonia:
    - *Strategies and projects for building the University of Catalonia*
    - Section 3.10: A University based on good governance and efficient management:
      - » Strategy number 57 is “Increase professionalization and innovation in public management of universities”
      - » Project number 64 “e-University” – “Improve innovation across to use of information and communication technologies”
  - Teams of archivists (universities): records management systems and digital preservation

- **1.3 - Vital records, vital records programs and the implementation of such programs. Vital records: an overview**
  - **The program:**
    - **What is a vital record?**
      - A file or record that is indispensable for the university's operation (acts of governing bodies, records of marks, student files/records and all those files or records that are considered as such) and that would ensure the continuation of university activities following a disaster.

- **What is a vital records program?**
  - It is a series of actions that are carried out in order to protect and preserve the vital records of any organisation so that in case of natural disaster (fire, flood, earthquake, etc.) the organisation can continue to carry out its functions and activities.
- **Why implement a vital records program?**
  - To protect certain types of unique and original records belonging to any organisation by means of the duplication or transfer of the information (content) to different media (or other physical format) and to different repositories in anticipation of the accidental or occasional loss of information.

- **What actions are carried out within a vital records program?**
  1. Description of the program
  2. Identification of vital records
  3. Classification of vital records
  4. Appraisal of vital records
  5. Diplomatic and documentary treatment
  6. External contracting of digitising services
  7. Digitising and microfilming
  8. Archival treatment
  9. Management of costs for the digitising and microfilming work

- **2 - The analysis of preliminary findings: The Research Project**
  - **Case study:** Preservation of vital electronic records in universities

Steps of the case study research	Status
Identifying the problem	OK
Data collection	Developing

  - **Test – bed partner:** *Universitat Pompeu Fabra*
  - **Co-investigators:** Eva Roca and Josep Ribas (Professionals)
  - **Methodology:** Case Study Workflow Chart (InterPARES 3 Project)
  - **Collaborator:** *University de Girona* (Miquel Serra)

- **2.1 - Context of the Research**
  - Factors such as continuous technological change, the implementation of TICS and the Internet, and the development of Electronic Administration, have led to radical changes in the creation of records.
  - These changes have, in turn, created new digital records creation, maintenance and long-term preservation challenges for organizations, and to manage and preserve vital e-records in Catalan universities, we need to research and study **questions** that we detect as **problems** and that should be answered as the *Universitat Pompeu Fabra* case study develops.

- **2.2 – Research questions**
  - First of all, it must be made clear that we have two situations as our points of departure to be studied in the case study. These are:
    1) The change in format of the vital records; that is, the migration of the vital records of the Catalan public universities in paper format to an electronic format (optical or magnetic)
    2) Vital records created/produced in a digital environment
  - Based on these two situations and on the questions/problems that are listed below, an attempt will be made to respond to the matter to be dealt with in this presentation.

➔ How can we identify and classify vital e-records?

- RMS Tool: classification scheme
- Procedure (in physical / traditional formats - paper) is:

  1. Detecting all of the records that can be classified as vital
  2. Identifying the records series
  3. Naming the records series
  4. Locating the records series within the structure of the classification scheme
  5. Coding the records series

- The classification scheme that is mainly used in the Catalan public universities is functional and it can be said that on a category level (broad functions) it contains the following:

G1 – General administration and organisation
G2 – Information and communication management
G3 – Representation and public relations
G4 – Human resources management
G5 – Economic resources management
G6 – Management of movable property
G7 – Management of immovable property
G8 – Legislation and legal matters
X1 – Management of academic resources
X2 – Organisation of teaching staff
X3 – Organisation of research

- Below is a list of the vital records of the University of Pompeu Fabra Archive, identified according to the classification scheme:

Class	Classification code	Classification entry	Vital record
G1 – General administration and organisation	1007	Councils	Act of the Social Council (Ordinary session no. 1/02 of 27 June 2002)
G8 – Legislation and legal matters	1328	Statutes	Statutes UPF 2003
X2 – Management of academic resources	1368	Student record	Academic record of Joan Vallfogona Ripoll (Ref. 1258/1995)
	1369	Records of marks	Record of marks for the subject History of Catalonia (Ref. 1487/95)
	1370	Records of theses	Records of theses
	1376	Register of official degrees	Register of official degrees

- The question therefore emerges of whether this same procedure can be applied in an electronic/digital environment.

➔ How can we identify and classify vital e-records?

The real situations/cases, which may emerge when creating/ producing electronic records, focusing on the case of vital e-records:

- **Situation 1 - Docucentric model**
  - Example:
    - » A new governing body, commission etc. is created within the organisational structure of the university, and the decision is made that from the start, records created/produced and/or received by this body will be exclusively in electronic format.

➔ How can we identify and classify vital e-records? (II)

- **Situation 2 - Datacentric model**
  - Example:
    - » Records managers and archivists of Catalan universities need to create policies, guidelines and recommen-dations to our institution to choose best choice to create and preserve vital e-records from these two models, with collaboration of other professionals link in digital preservation.

➔ What are the capturing and archiving processes?

- **Certified digitisation:**
  - According Law 11/2007 of 22 June, on electronic access of citizens to public services and reference regulation.
  - It will be necessary to study whether certified digitisation is required for vital records in paper format and what the process is that is to be followed, to determine what the legal, technological and human (responsibilities) requirements are that affect the process and lastly to decide on what the preservation formats should be; technological refers to the question of hard and soft.
  - The approach will focus on deciding which vital records require certified digitisation when migration is to be carried out from the physical / traditional format (paper) to a digital format (optical or magnetic) and the paper originals are to be eliminated.
  - Research about the printing in paper format of vital records that have been digitised using digitised certification or that have been created/ produced in an entirely digital environment that guarantees their authenticity and legal/administrative validity, as outlined in Law 11/2007.
  - Reference Project in Spain: **e-billing (*e-factura*).**

- **Creation/production in a digital environment:**
  - The feasibility of the InterPARES guidelines and the recommendations of the two models (BDR and COP models) proposed by InterPARES for the creation, maintenance and preservation of digital records should be studied in Catalan universities context.
  - International standards, regulations and legislation must also be taken into account.
  - Study whether when vital e-records are created/produced (original copies and security and preservation copies) these have any specific characteristics with regard to other conventional electronic records (e.g., from a security perspective, a legal perspective, etc.).

➔ How can we appraise vital electronic records?

In Catalonia, the collegiate body in the technical sphere that has access, appraisal and selection functions is the National Committee of Records Access, Appraisal and Disposition (CNAATD)

- Order of the Minister for Culture of 15 October 1992, passing the general criteria for records appraisal and selection and the corresponding proposal model (DOGC *no. 1688, of 30/12/1992*):
  - **Criteria for record appraisal and selection (Preservation criteria):**
    1. Preserve text records that provide information on: The origins of the entity; Its organisation; The evolution of the structures, political functions, programmes and activities.
    2. Preserve records that provide information on the process of drawing up the laws and regulations affecting the entity.

– **Criteria for record appraisal and selection (Preservation criteria) (II):**

3. Preserve text records that enable an assessment of the impact or effectiveness of the entity's programmes or activities.
4. Preserve records that supervise the internal operation of the entity in terms of: Delegation of authority; Power relations; Schools of thought.
5. Preserve records containing significant information on: An event; An individual; An institution; A place.
6. Preserve records containing significant information on important events, movements or trends in political, economic and social history.
7. Preserve records that contain significant information on science and technology.

– **Criteria for record appraisal and selection (Preservation criteria) (III):**

8. Preserve records containing necessary information for the protection of civil, financial or legal rights or other rights of individuals, institutions or the entity itself.
9. Preserve records that significantly complete the information contained in other document fonds or series.
10. Preserve records that respond to the requirements of statistical analysis and quantitative history.

- These criteria will therefore help, particularly in a digital environment, to identify and classify vital e-records within the new type of electronic records created/produced in line with the new university competences, functions and activities. It should be noted that in the case of vital records, resolutions on disposal and retention should automatically be permanently preserved.

- Another aspect to highlight is the collaborative records appraisal and selection work carried out by the Catalan public universities through the CNAATD-linked working group, the GATDU (University Document Appraisal and Selection Group):
  - **Members:**
    - *Universitat de Girona, Universitat Pompeu Fabra, Universitat Politècnica de Catalunya, Universitat Rovira i Virgili* and *Univeristat Autònoma de Barcelona*
  - **Actions:**
    - Proposals for records appraisal and disposition schedules of own/specific series within the Catalan public universities to CNAATD
    - Identify vital e-records
    - *Future* ➔ determine access to vital e-records and determine the long-term preservation methods

➔ How can we guarantee authenticity and accessibility?

- **Digital certification and signature / time-stamping**
  - According to Law 59/2003 (digital signature) and Law 11/2007 (e-access to public services)
  - In Catalonia the Catalan Digital Certification Agency (CATCert) is responsible for offering and providing digital certification services to the Catalan public administration and businesses. As a digital certification agency, it offers:
    - » Creation of Certification and Registration Authorities
    - » Provision of certification
    - » Platform of identification and signature services (PSIS)
    - » Electronic signature tools; idCAT
    - » Classification of digital identities and attributes
    - » Consultancy service; iArxiu; PASSI
    - » Virtual signature office
    - » Time-stamping service
    - » Training

- **Decide which elements of this range of services and products we require to guarantee the authenticity of vital e-records such as what type of digital certification we require, the legal and technological format of the electronic signature, time-stamping, etc. For this section, we will work in collaboration and with consultancy from CATCert, taking into account that the archivist and head of the CATCert iArxiu project, is a member of TEAM Catalonia.**

- **Creating copies of vital records for the security and preservation of these records, it is important to consider whether these copies must have the status of originals, and therefore it will be necessary to apply all of the elements required for this (electronic signature, timestamp, electronic evidence service, etc.) logically, in collaboration with the human resources of each institution for legal, technological and organisational tasks (collaborative, multidisciplinary interdisciplinary work).**

– **Access**

- According to regulations on access to and protection of personal data (Spanish and Catalan) it will be necessary to determine what type of treatment should be applied to vital records given that many of them are subject to restricted access, e.g., wage slips, staff records, academic records, etc., and in a digital environment we must consider how these should be protected.
- In 2008, The National Committee of Records Access, Appraisal and Disposition (Decree 13/2008 of 22 January on records access, appraisal and selection) new competence: **access**
    - » Records appraisal and disposition schedules, proposals by GATDU team or each Catalan university to CNAATD might inform about records access.

➔ Which are the best formats for visualization and preservation of vital e-records?

- During the study of viewing formats (representation) and preservation that will be applied to vital e-records, we will focus on the analysis of all of the knowledge developed by the InterPARES Project and ISO standards, and other international and national recommendations to determine our policy in this regard.
- Whether the e-records will be created/produced using the docucentric or datacentric model must be taken into consideration. In this section of the collaborative, multidisciplinary and interdisciplinary project, this will also be a key, basic and essential factor.

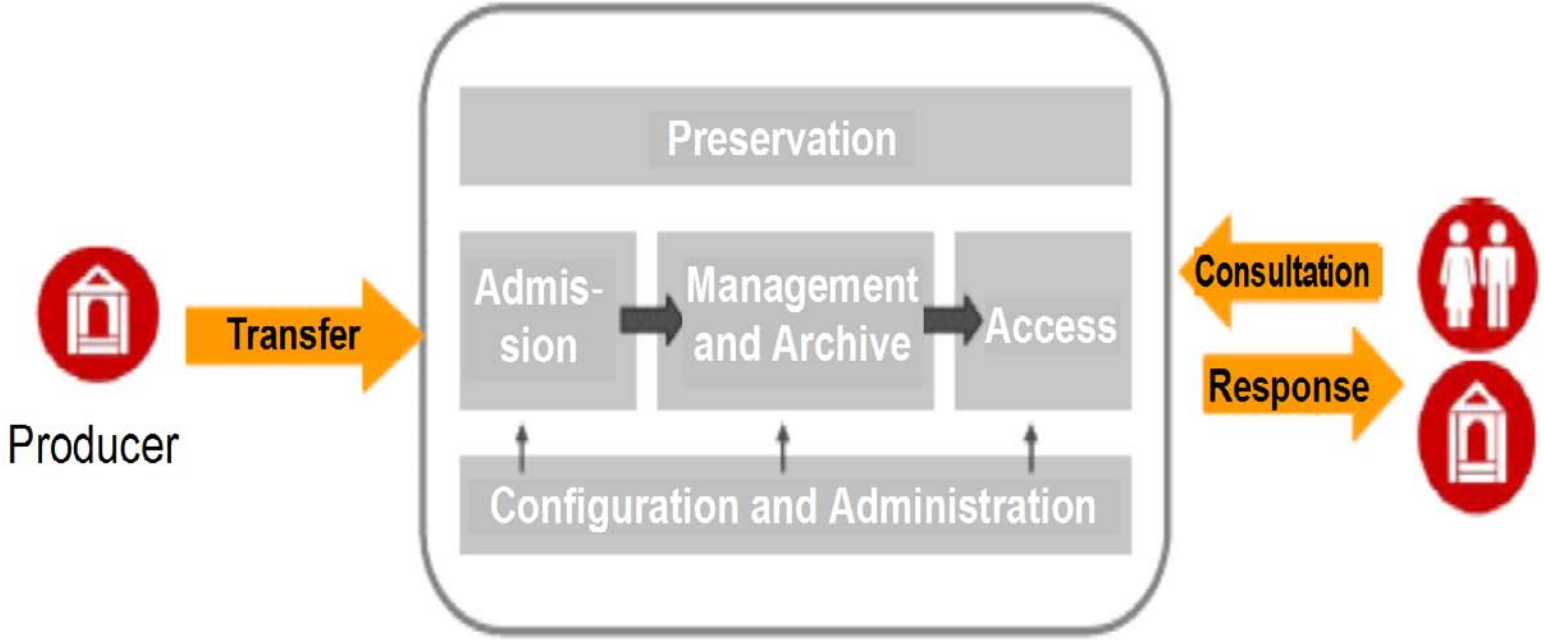
➔ How can we describe vital records? Are specific metadata required?

- When describing vital e-records, it will be necessary to study whether certain specific metadata must be defined and developed in order to define and know their position, their location, their level/state of treatment (within the vital e-records programmes) and what preservation policy must be applied to them.
- References:
  - MADRAS project (InterPARES)
  - METS model
  - MOREQ 2 (appendix 9)

➔ Which digital repository(ies) can we use? Where should vital e-records be preserved?

- In Catalonia, the Catalan public universities, like the rest of the public administration, can use a secure digital repository of the iArxiu as a technological solution and tool. The iArxiu is a project developed by CATCert (the Catalan Digital Certification Agency). It is an electronic archive service that CATCert offers to the Catalan public administration to solve the problem of the long-term preservation of electronic records with full guarantees and effects. It provides a repository for electronic records in the format of lasting digital objects and therefore guarantees in the long term the authenticity, integrity, security, recovery and viewing of the records. Its aim is to:
  - Preserve electronic records securely
  - Ensure the validity of the electronic signatures incorporated into records
  - Guarantee access, recovery and use of stored records
- The iArxiu is indispensable due to its comprehensive records management system, which takes into account the lifecycle of records. The iArxiu has been developed based on *ISO 14721:2003 Space data and information transfer systems -- Open archival information system -- Reference model*

- The iArxiu platform (which is based on the OAIS model) is illustrated below:



- When the vital e-records program is applied, in order to guarantee the preservation of the records it will be necessary to study, decide and plan the following three situations/scenarios to decide where the vital e-records should be preserved:
    1. Data servers (magnetic format): First original copy in the institutional repository (university) + second copy (original or copy) in the iArxiu (CATCert or other institution installations)
    2. Data and optical servers: First original copy in the repository (of the university or the CATCert iArxiu) + second copy (original or copy) in optical format (in installations outside of the university that have the optimum conditions for optical formats).
    3. Data, optical and microfilm servers: Case 2 + a third copy in microfilm format (stored in an external institution with the optimum storage conditions).
- Study and research viability and test the two models proposed by InterPARES: the BDR and COP models

- With vital electronic records (both the original copies and the original copies/security and preservation copies) as digital assets within the information systems of the Catalan public universities, the risk analysis methodologies such as MAGERIT and the auditing of digital repositories such as DRAMORA must also be taken into account.
- If the Catalan public universities implement these methodologies within their information security systems, they must take their archives and their staff into account.

- **2.3 - Expected results:**
  - A list of best practices
  - A list of recommendations and/or a protocol for action for identifying and creating/producing, treating, describing, protecting and preserving vital records in electronic format

Thank you for your attention

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Associació d'Arxivers de Catalunya (AAC)