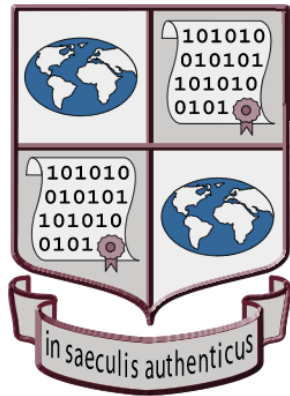


# InterPARES Project

International Research on Permanent Authentic Records in Electronic Systems



## Continuity and Transformation in the Role of the Archivist

### InterPARES 3 (2007-2012)

**Luciana Duranti**

InterPARES Project Director

InterPARES 3 Project, 1<sup>st</sup> International Symposium  
Seoul, South Korea, 4 June 2009



# The Goal of InterPARES 1 & 2


To develop the body of **theory** and **methods** necessary to ensure that **digital records** will be **created accurate and reliable** and **maintained and preserved authentic**, both in the long and the short term, for the use of those who created them and of society at large, regardless of technology obsolescence and media fragility.



# Key IP 1 & 2 Final Products

## Policy Framework

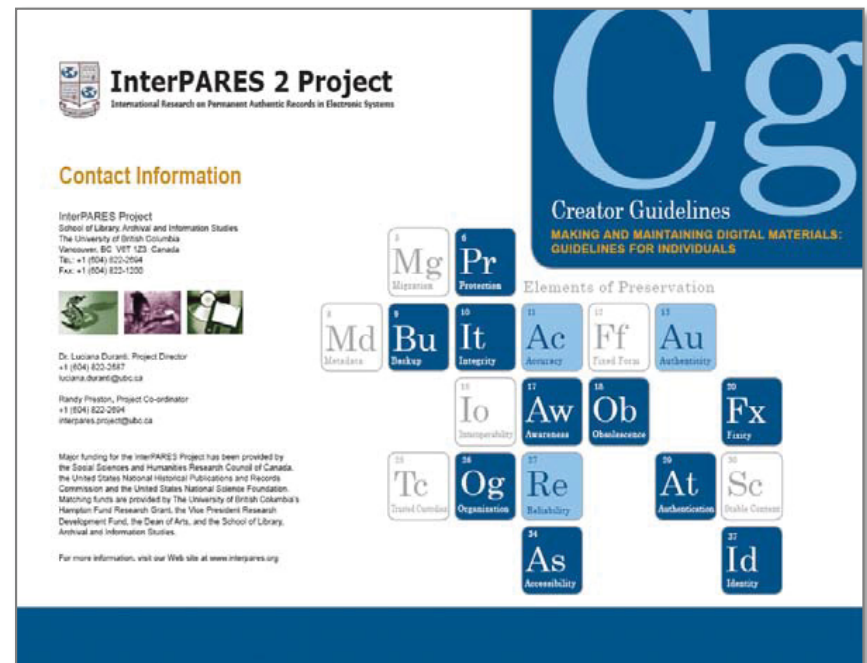
A framework of principles guiding the development of policies for records creating and preserving organizations

|   |  |
|---|--|
|  <b>InterPARES 2 Project</b><br>International Research on Permanent Authentic Records in Electronic Systems  |  |
| <b>Title:</b> A Framework of Principles for the Development of Policies, Strategies and Standards for the Long-term Preservation of Digital Records   |  |
| <b>Status:</b> Final (public)   |  |
| <b>Version:</b> 1.2   |  |
| <b>Submission Date:</b> June 2005   |  |
| <b>Release Date:</b> March 2006   |  |
| <b>Author:</b> The InterPARES 2 Project   |  |
| <b>Writer(s):</b> Luciana Duranti, Jim Suderman and Malcolm Todd  |  |
| <b>Project Unit:</b> Policy Cross-domain  |  |
| <b>URL:</b> <a href="http://www.interpares.org/diplay_file.cfm?doc=ip2/pub/policy_framework_document.pdf">http://www.interpares.org/diplay_file.cfm?doc=ip2/pub/policy_framework_document.pdf</a>   |  |
| <b>Policy Framework, v1.2 (March 2006)</b> <span style="float: right;">L. Duranti, J. Suderman and M. Todd</span>   |  |
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| (C2) Record creation procedures should ensure that digital components of records can be separately maintained and reassembled over time. (P6) ..... 4   |  |
| (C3) Record creation and maintenance requirements should be formulated in terms of the purposes the records are to fulfil, rather than in terms of the available or chosen recordkeeping or recordkeeping technologies. (P4) ..... 5  |  |
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| (C5) A trusted record-making system should be used to generate records that can be presumed reliable. (C6) ..... 7  |  |
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| (C12) Procedures for storing records across different jurisdictions should be established on the basis of the legal requirements under which the records are created. (P13) ..... 12  |  |
| (C13) Reproductions of a record made by the creator in its usual and ordinary course of business and for its purposes and use, as part of its recordkeeping activities, have the same effects as the first manifestation, and such is to be considered as any given time the record of the creator. (P3) ..... 12 |  |
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| (P1) A designated records preserver fulfils the role of trusted custodian. (C8) ..... 13  |  |
| (P2) Records preservation policies, strategies and standards should address the issues of records accuracy and authenticity expressly and separately. (C4) ..... 14   |  |
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| (P4) Records preservation procedures should ensure that the digital components of records can be separately preserved and reassembled over time. (C2) ..... 15  |  |
| (P5) Authentic copies should be made for preservation purposes only from the creator's records, that is, from digital objects that have a stable content and a fixed documentary form. (C1) ..... 16  |  |
| (P6) Preservation requirements should be articulated in terms of the purpose or desired outcome of preservation, rather than in terms of the specific technologies available. (C3) ..... 17   |  |
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| (P10) Archival appraisal should identify and include all the business processes that contribute to the creation and/or use of the same records. (C5) ..... 20   |  |
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| (P12) Archival description should be used as a collective authentication of the records in an archival context. (C6) ..... 20   |  |
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# IP 1 & 2 Final Products

## Creator Guidelines

Recommendations for making and maintaining digital materials for individuals and small communities of practice



# IP 1 & 2 Final Products

## Preserver Guidelines

Recommendations for digital preservation for archival institutions

The image shows the cover of the 'InterPARES 2 Project Preserver Guidelines' report. The title 'InterPARES 2 Project' is at the top left, with the subtitle 'International Research on Permanent Authentic Records in Electronic Systems'. Below it is the 'Contact Information' section, listing the project director (Luciana Duranti) and project coordinator (Randy Preston) with their contact details. The main title 'Pg Preserver Guidelines' is prominently displayed in large yellow letters on a blue background. Below this, the subtitle 'PRESERVING DIGITAL RECORDS: GUIDELINES FOR ORGANIZATIONS' is visible. The cover also features a periodic table of elements, where each element is represented by a box containing its symbol, atomic number, and a preservation-related term. For example, 'Mg' is 'Managing', 'Fe' is 'Feasibility', 'Be' is 'Benchmark Requirements', 'Id' is 'Identifying', 'Pr' is 'Preserving', 'Ac' is 'Accuracy', 'St' is 'Storing', 'Au' is 'Authenticity', 'De' is 'Describing', 'Ma' is 'Managing', 'Ob' is 'Obsolescence', 'Mo' is 'Monitoring', 'Tc' is 'Transfer Outcomes', 'Op' is 'Outputting', 'Ba' is 'Baseline Requirements', 'Ap' is 'Appraising', 'Tr' is 'Transferring', and 'Do' is 'Documenting'. The cover is designed to look like a scientific or technical document, reflecting the project's focus on digital preservation research.

**InterPARES 2 Project**  
International Research on Permanent Authentic Records in Electronic Systems

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For more information, visit our Web site at [www.interpres.org](http://www.interpres.org)

**Pg**  
**Preserver Guidelines**  
PRESERVING DIGITAL RECORDS:  
GUIDELINES FOR ORGANIZATIONS

**Elements of Preservation**

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| Be | Id | Pr | Ac | St | Au |    |
| 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| De | Ma | Ob |    | Mo |    |    |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Tc | Op | Ba | Ap | Tr |    |    |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
|    | Ac |    |    | Do |    |    |



# IP 1 & 2 Final Products

## Benchmark and Baseline Requirements

Authenticity requirements for assessing and maintaining the authenticity of digital records

### << REQUIREMENT SET A >>

To support a presumption of authenticity the preserver must obtain evidence that:

#### REQUIREMENT A.1: Expression of Record Attributes and Linkage to Record

The value of the following attributes are explicitly expressed and inextricably linked to every record. These attributes can be distinguished into categories, the first concerning the identity of records, and the second concerning the integrity of records.

##### A.1.a Identity of the record:

- A.1.a.i Names of the persons concurring in the formation of
  - name of author<sup>a</sup>
  - name of writer<sup>b</sup> (if different from the author)
  - name of originator<sup>c</sup> (if different from name of author)
  - name of addressee<sup>d</sup>

##### A.1.a.ii Name of action or matter

##### A.1.a.iii Date(s) of creation and transmission, that is:

- chronological date<sup>e</sup>
- received date<sup>f</sup>
- archival date<sup>g</sup>
- transmission date(s)<sup>h</sup>

##### A.1.a.iv Expression of archival bond<sup>i</sup> (e.g., classification code)

##### A.1.a.v Indication of attachments

##### A.1.b Integrity of the record:

- A.1.b.i Name of handling office<sup>j</sup>
- A.1.b.ii Name of office of primary responsibility<sup>k</sup> (if different from the handling office)
- A.1.b.iii Indication of types of annotations added to the record
- A.1.b.iv Indication of technical modifications<sup>m</sup>

#### REQUIREMENT A.2: Access Privileges

The creator has defined and effectively implemented access privilege modification, annotation, relocation, and destruction of records.

### << REQUIREMENT SET A (cont) >>

#### REQUIREMENT A.3: Protective Procedures: Loss and Corruption of Records

The creator has established and effectively implemented procedures to prevent, detect, correct loss or corruption of records.

#### REQUIREMENT A.4: Protective Procedures: Media and Technology

The creator has established and effectively implemented procedures to guarantee the identity and integrity of records against media deterioration and across technological changes.

#### REQUIREMENT A.5: Establishment of Documentary Forms

The creator has established the documentary forms of records associated with each process either according to the requirements of the juridical system or those of the creator.

#### REQUIREMENT A.6: Authentication of Records

If authentication is required by the juridical system or the needs of the organization, the creator has established specific rules regarding which records must be authenticated, by what means and by whom.

#### REQUIREMENT A.7: Identification of Authoritative Record

If multiple copies of the same record exist, the creator has established procedures to determine which record is authoritative.

#### REQUIREMENT A.8: Removal and Transfer of Relevant Documentation

If there is a transition of records from active status to semi-active and inactive status, involves the removal of records from the electronic system, the creator has established effectively implemented procedures determining what documentation has to be removed and transferred to the preserver along with the records.

### << REQUIREMENT SET B >>

The preserver should be able to demonstrate that:

#### REQUIREMENT B.1: Controls over Records Transfer, Maintenance, and Reproduction

The procedures and system(s) used to transfer records to the archival institution or program; maintain them; and reproduce them embody adequate and effective controls to guarantee the records' identity and integrity, and specifically that:

##### B.1.a Unbroken custody of the records is maintained;

##### B.1.b Security and control procedures are implemented and monitored; and

##### B.1.c The content of the record and any required annotations and elements of documentary form remain unchanged after reproduction.

#### REQUIREMENT B.2: Documentation of Reproduction Process and its Effects

The activity of reproduction has been documented, and this documentation includes:

##### B.2.a The date of the records' reproduction and the name of the responsible person;

##### B.2.b The relationship between the records acquired from the creator and the copies produced by the preserver;

##### B.2.c The impact of the reproduction process on their form, content, accessibility and use; and

##### B.2.d In those cases where a copy of a record is known not to fully and faithfully reproduce the elements expressing its identity and integrity, such information has been documented by the preserver, and this documentation is readily accessible to the user.


#### REQUIREMENT B.3: Archival Description

The archival description of the fonds containing the electronic records includes—in addition to information about the records' juridical-administrative, provenancial, procedural, and documentary contexts—information about changes the electronic records of the creator have undergone since they were first created.

# IP 1 & 2 Final Products

## File Format Selection Guidelines

Principles and criteria for adoption of file formats, wrappers and encoding schemes

|   |  |
|---|--|
|  <b>InterPARES 2 Project</b><br><small>International Research on Permanent Authentic Records in Electronic Systems</small> | <small>Selecting Digital File Formats for Long-Term Preservation</small><br><small>B. McLellan</small> |
| <b>Title:</b> General Study 11 Final Report:<br>Selecting Digital File Formats for<br>Long-Term Preservation  | <b>Table of Contents</b>   |
| <b>Status:</b> Final (public)   | Introduction ..... 1   |
| <b>Version:</b> 1.1   | 1. Terminology ..... 1   |
| <b>Release:</b> March 2007  | 1.1 What is a file format? ..... 1   |
| <b>Author:</b> The InterPARES 2 Project   | 1.2 "Open" file formats ..... 3  |
| <b>Writer(s):</b> Evelyn Peters McLellan  | 1.3 "Standard" file formats ..... 4  |
| <b>Project Unit:</b> Domain 3 (Methods of Appraisal & Preservation)   | 1.4 "Stable" file formats ..... 5  |
| <b>URL:</b> <a href="http://www.interpares.org/display_file.cfm?doc=ip2_file_formats(complete).pdf">http://www.interpares.org/display_file.cfm?doc=ip2_file_formats(complete).pdf</a> [English]               | 1.5 Standardizing terms ..... 5  |
| <a href="http://www.interpares.org/display_file.cfm?doc=ip2_file_formats_tchiers_numeriques.pdf">http://www.interpares.org/display_file.cfm?doc=ip2_file_formats_tchiers_numeriques.pdf</a> [French]          | 2. Selection criteria ..... 6  |
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|   | <small>InterPARES 2 Project, Domain 3 v1.1 (March 2007)</small>  |





# IP 1 & 2 Final Products

## Terminology Database

Including a glossary, a dictionary and ontologies

The image displays the InterPARES 2 Project Terminology Database website in a Mozilla Firefox browser window. The website features a navigation menu with links to Home, About Us, About the Research, Research to Date, and Dissemination. The main content area is titled "terminology database" and includes a list of letters (A through W) for navigation. The text describes the database's purpose: "The Terminology Database has been designed to support multidisciplinary communication in the InterPARES 2 research project. By extension this Database now stands as a contribution to the development of records in dynamic, interactive, and experiential systems in arts, sciences, and humanities." It also mentions that the database contains three terminological instruments: a Glossary, a Dictionary, and an Ontology. A link is provided for more information on the structure of the Database, and a section lists available documents for downloading in PDF format: "InterPARES 2 Project Glossary", "InterPARES 2 Project Dictionary", and "Ontologies".

Two ontologies are shown as overlays. **Ontology A: Concept of a Record** is a hierarchical diagram showing the components of a record. It starts with "Archives" and "Records", which branch into "Intellectual Components", "Attributes", and "Digital Components". "Intellectual Components" further branches into "Acts", "Persons", and "Archival Bond". "Attributes" branches into "Content", "Context", and "Medium". "Digital Components" branches into "Form". A note states: "There are 7 required components: Acts, Persons, Archival Bond, Content, Context, Medium, Form." Another note states: "Every record exists in a hierarchy of conceptual frameworks that move from the general to the specific." A third note states: "Every record requires 3 persons: Addressee, Writer, Author." A fourth note states: "May include: (Intellectual) Edition, Text, Deception, Sub, Press, Error, Disposition, Agency, Cause, Alteration, Qualification, Separation, Form, Formula, or Public Cellar."

**Ontology C: Trustworthiness of a Record** is a hierarchical diagram showing the components of trustworthiness. It starts with "TRUSTWORTHINESS", which branches into "RELIABILITY", "AUTHENTICITY", and "ACCURACY". "RELIABILITY" branches into "COMPLETENESS" and "CREATION PROCEDURE". "AUTHENTICITY" branches into "PRECISE", "CORRECT", "TRUTHFUL", and "PERTINENT". "ACCURACY" branches into "INTEGRITY" and "IDENTITY". A note states: "Is established by examining a record's". Another note states: "Is the degree to which records are". A third note states: "Has two components".

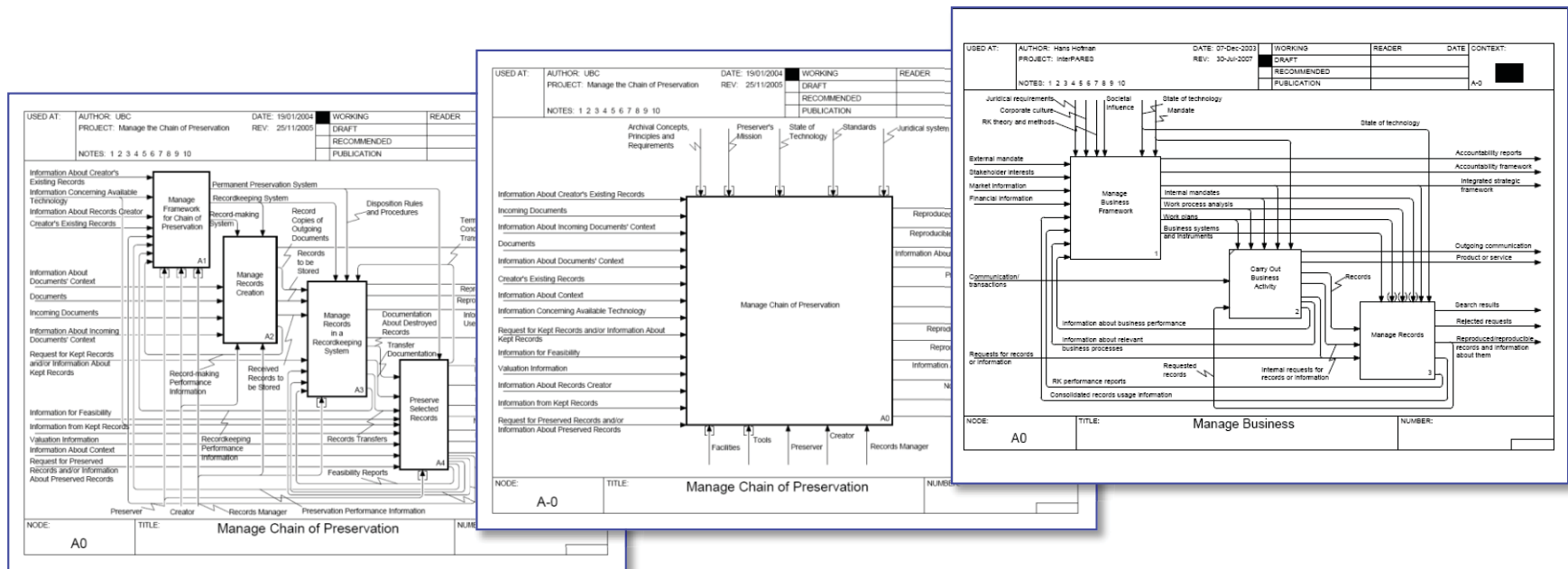


# IP 1 & 2 Final Products

## Two Records Management Models

Chain of Preservation (COP) Model (lifecycle)

Business-driven Recordkeeping (BDR) Model  
(continuum)



# IP 1 & 2 Final Products

## Two books:

Luciana Duranti, ed. *The Long-term Preservation of Authentic Electronic Records: Findings of the InterPARES Project* (San Miniato: Archilab, 2005).  
Available on line at

<http://www.interpares.org/book/index.cfm>

Luciana Duranti and Randy Preston, eds.  
*InterPARES 2: Interactive, Dynamic and Experiential Records* (Padova: ANAI, 2008).  
Available on line at

<http://www.interpares.org/ip2/book.cfm>



# Most Important Findings

- The traditional **concept of preservation** must include the processes necessary to transmit the record through time, including conversion and migration
- The **unbroken chain of preservation** must begin at creation and continue from the record-making system to the recordkeeping system and the record preservation system
- The new emphasis on accountability allows the archives to fulfill these needs by **presenting itself as the trusted custodian**



# Archivist as Trusted Custodian

The trusted custodian is a person who:

- acts as a **neutral third party**, i.e., demonstrates that he/she has no stake in the content of the records and no reason to alter records under his/her custody, and that he/she will not allow anybody to alter the records either accidentally or on purpose,
- is equipped with the **knowledge and skills** necessary to fulfil its responsibilities, which should be acquired through formal education, and
- establishes a **trusted preservation system** that is capable of ensuring that accurate and authentic copies of the creator's records are acquired and preserved;
- But, mostly...

# The Archivist's New Role

1. Positions him/herself at the **beginning of the record life-cycle**, taking the role of “designated” trusted custodian
2. Assesses the **authenticity of the records** and **monitors it** throughout their existence
3. Identifies the records to be preserved at the moment of their creation and **monitors their transformation through time**
4. Determines the **feasibility of preservation** on the basis of the archives technological capacity

# The Archivist's New Role (cont.)

5. Determines a **preservation strategy** independently of technological trends (tries to influence the industry through the adoption of standards, but not vice versa) and maintains a focus on interoperability
6. Controls the **accuracy of the records** after each conversion or migration
7. Develops **procedures** that address issues of **intellectual rights and privacy**
8. Recognizes to **archival description a primary authentication function**

# The Archivist's New Functions (cont.)

9. Is constantly **involved in research and development projects** similar to those carried out by the industry, addressing questions like the following:
- What entity constitutes the record in each dynamic or interactive system
  - What instantiation of such entity can be regarded as the record (manifested or stored entity)
  - How to keep such entities accurate and authentic through time
  - How to enable users to verify such authenticity over time



# Why a Third Phase?

A study of the effectiveness of workshop and seminar experiences for increasing archivists' skills in digital preservation and their ability to implement these skills in their repositories has shown that **very few participants were able to implement the skills** once they returned to their work environments

Wendy M. Duff, Amy Marshall, Carrie Limkilde and Marlene van Ballegooie (2006)  
“Digital Preservation Education: Educating or Networking?” *The American Archivist*  
69(1): 188-212. In the context of ERPANET.

Feedback on the outcomes of the two phases of InterPARES from archivists working in institutions smaller than national archives has consistently shown **concern about their downward-scalability and their relevance** to small and medium sized organizations



# Goal of InterPARES 3

To **enable small and low-resources** public and private **archival organizations and programs** (units within records creating organizations)—which are responsible for the digital records resulting from government, business, research, art and entertainment, social and/or community activities—**to preserve** over the long term **authentic records** that satisfy the requirements of their stakeholders and society's needs for an adequate record of its past.



# Expected Products

1. **Policies, strategies and procedures** for small archival organizations or programs, and **guidelines** for the records creators whose records fall under their responsibility.
2. **Action plans** for the specific case studies carried out in the course of the Project.
3. **Criteria to determine “most-at-risk” materials** e.g., checklist of age (date created, date last accessed), physical carrier, operating system, software used, equipment required and its availability, etc.

## Expected Products (cont.)

4. **Guidelines for addressing digital preservation requirements** that apply to specific types of records, but not to other materials.
5. **Evaluation models for assessing the degree of success**, if any, of the chosen preservation action.
6. **Cost-benefit models** for various types of archival organizations or programs and for various kinds of records and/or systems.
7. **Ethical models** that identify and make explicit the consequences for individuals and society of types of preservation measures or lack thereof.

## Expected Products (cont.)

8. **Training and education modules** for preservers, professional associations and university programs; and **awareness and education modules for non-archivists**, such as IT professionals, vendors and service providers; human resources and financial managers; doctors, communities of practice, members of the general public, etc.; and **a strategy for delivering them**.
9. **Position papers** directed to key regulating, auditing and policy-making bodies, advocating the vital need of embedding planned digital preservation in the requirements they issue for the activities they regulate, audit or control.

# 3 Primary Components

1. **Research component**  
(short-term and long-term projects, including case studies related to policy, records or systems, and general studies)
2. **Education and training component**  
(in the context of research projects, apprenticeships, activities credited as part of coursework, etc.)
3. **Knowledge-mobilization component** (workshops, seminars, colloquia, policy manuals and other publications, public lectures, etc., that meet the needs of both academic and community partners)



# InterPARES 3 Composition

## International Alliance

### **15 regional, national & multinational TEAMS:**

TEAM (Theoretical Elaboration into Archival Management)  
Canada (including US); Africa; Brazil; Catalonia; China;  
Colombia; Italy; Korea; Malaysia; Mexico; Netherlands &  
Belgium; Norway; Singapore; Turkey; and UK & Ireland

**Director:** Luciana Duranti

**Headquarters:** UBC - SLAIS (facilities provided by UBC)

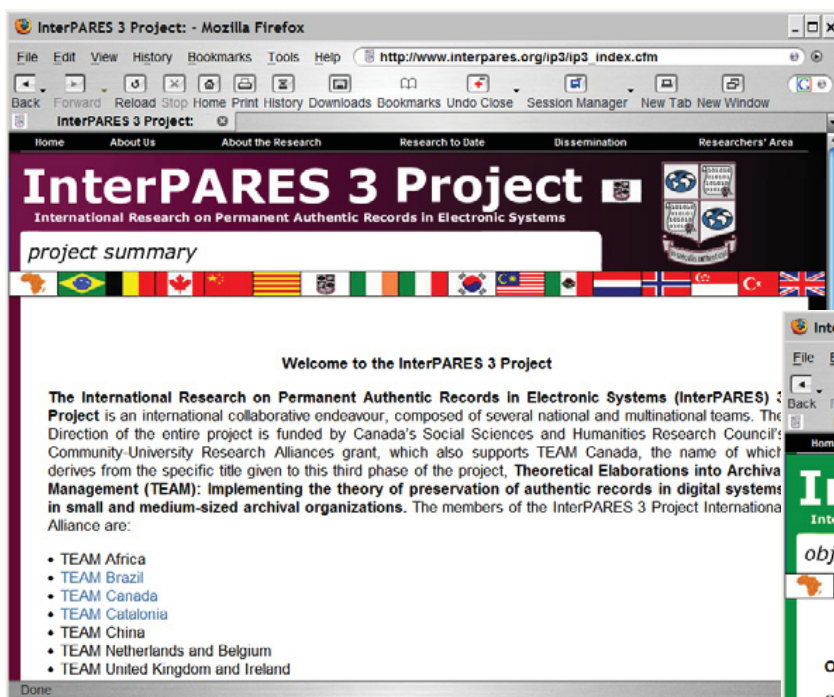
**Summits:** Twice a year, each time hosted by a different country

**Symposia:** Once a year, each time hosted by a different country





# InterPARES 3 Web Site



[www.inter pares.org](http://www.inter pares.org)



# Our Ultimate Goal

- Each **archives will become a locus of research** by establishing a partnership with academics involved in international research, professionals involved in standards development, experts in law and information technology and, most importantly, with the creators of the records that fall under their jurisdiction.
- Each **archival association will promote an environment supportive** of the archives goal by demonstrating to regulatory and auditing bodies, and policy makers that they ought to embed digital records preservation requirements (not rules) in any activity that they regulate, audit or control.
- This will result in 1) the generation of **new knowledge**, 2) the achievement of **practical outcomes relevant to local settings**, 3) the **education** of all participants, 4) a **sound** research and development **methodology**, and 5) the **empowerment of the archives as an instrument of accountability and a point of reference for society at large**.





# Please, give us feedback on our Preliminary Findings

**InterPARES Web Site**

[www.interpares.org](http://www.interpares.org)

