

# InterPARES 3 Project

International Research on Permanent Authentic Records in Electronic Systems

TEAM Canada

## Implementing Digital Records Preservation in Small and Medium-sized Archives

Randy Preston

InterPARES Project Coordinator

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ACA Conference

Fredericton, NB

14 June 2008



**InterPARES Project**

Randy Preston

Project Coordinator

# The Goal of InterPARES 1 & 2


To develop the body of theory and methods necessary to ensure that digital records produced in databases and office systems as well as in **dynamic, experiential and interactive systems** in the course of artistic, scientific and e-government activities can be created in **accurate** and **reliable** form and maintained and preserved in **authentic form**, 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**

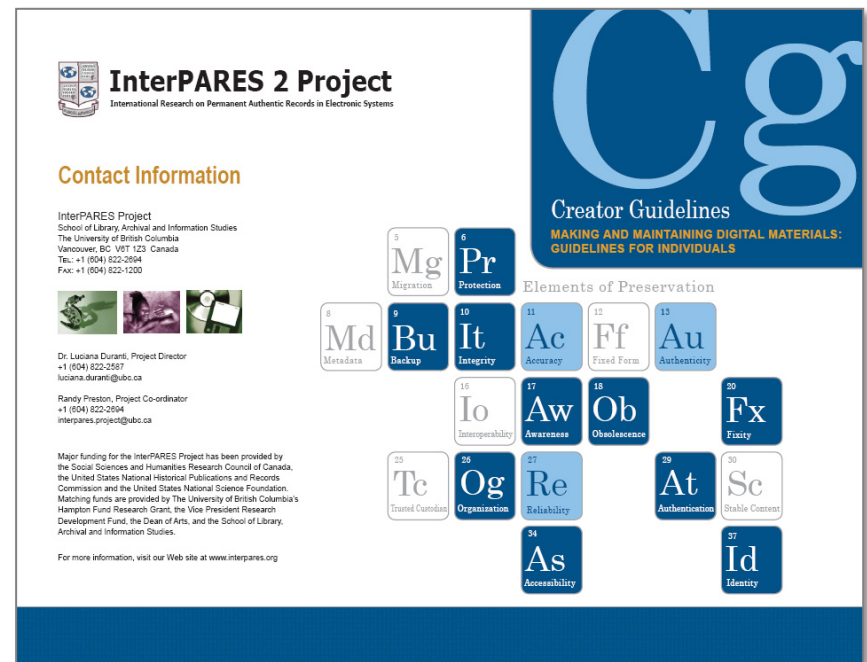
A framework of principles guiding the development of policies for records creating and preserving organizations

 <b>InterPARES 2 Project</b> 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	
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<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/display_file.cfm?doc=ip2/pub/policy_framework_document.pdf">http://www.interpares.org/display_file.cfm?doc=ip2/pub/policy_framework_document.pdf</a>	
<b>Table of Contents</b>	
<b>INTRODUCTION</b> ..... 1	
<b>STRUCTURE OF THE PRINCIPLES</b> ..... 3	
<b>PRINCIPLES FOR RECORDS CREATORS</b> ..... 4	
(C1) Digital objects must have a stable content and a fixed documentary form to be considered records and to be capable of being preserved over time. (P1) ..... 4	
(C2) Record creation procedures should ensure that digital components of records can be separately maintained and reassembled over time. (P4) ..... 5	
(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 record-making or recordkeeping technologies. (P6) ..... 5	
(C4) Record creation and maintenance policies, strategies and standards should address the issues of record reliability, accuracy and authenticity expressly and separately. (P2) ..... 6	
(C5) A trusted record-making system should be used to generate records that can be presumed reliable. (C6) A trusted recordkeeping system should be used to maintain records that can be presumed accurate and authentic. (P11, P15) ..... 7	
(C7) Preservation considerations should be embedded in all activities involved in record creation and maintenance if a creator wishes to maintain and preserve accurate and authentic records beyond its operational business needs. (P7) ..... 9	
(C8) A trusted custodian should be designated as the preserver of the creator's records. (P1) ..... 9	
(C9) All business processes that contribute to the creation and/or use of the same records should be explicitly documented. (P10) ..... 10	
(C10) Third-party intellectual property rights attached to the creator's records should be explicitly identified and managed in the record-making and recordkeeping systems. (P9) ..... 11	
(C11) Privacy rights and obligations attached to the creator's records should be explicitly identified and protected in the record-making and recordkeeping systems. (P9) ..... 11	
(C12) Procedures for sharing 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 to 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 each is to be considered at any given time the record of the creator. (P5) ..... 12	
<b>PRINCIPLES FOR RECORDS PRESERVERS</b> ..... 13	
(P1) A designated records preserver fulfils the role of trusted custodian. (C6) ..... 13	
(P2) Records preservation policies, strategies and standards should address the issues of record accuracy and authenticity expressly and separately. (C4) ..... 14	
(P3) Reproductions of a creator's records made for purposes of preservation by their trusted custodian are to be considered authentic copies of the creator's records. (C13) ..... 15	
(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	
(P7) Preservation considerations should be embedded in all activities involved in each phase of the records lifecycle if their continuing authentic existence over the long term is to be ensured. (C7) ..... 18	
(P8) Third-party intellectual property rights attached to the creator's records should be explicitly identified and managed in the preservation system. (C10) ..... 19	
(P9) Privacy rights and obligations attached to the creator's records should be explicitly identified and protected in the preservation system. (C11) ..... 19	
(P10) Archival appraisal should identify and analyse all the business processes that contribute to the creation and/or use of the same records. (C9) ..... 20	
(P11) Archival appraisal should assess the authenticity of the records. (C5) ..... 20	
(P12) Archival appraisal should be used as a collective authentication of the records in an archival context. (C6) ..... 20	
(P13) Procedures for providing access to records created in one jurisdiction to users in other jurisdictions should be established on the basis of the legal environment in which the records were created. (C13) ..... 21	
InterPARES 2 Project, Policy Cross-domain ..... 1	

# IP 1 & 2 Final Products

- Creator Guidelines**

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



The image shows the cover page of the InterPARES 2 Project Creator Guidelines. The page is titled "InterPARES 2 Project" with the subtitle "International Research on Permanent Authentic Records in Electronic Systems". It includes contact information for the project, listing Dr. Luciana Duranti as the Project Director and Randy Preston as the Project Co-ordinator. The page also features a periodic table of elements, where each element is represented by a box containing its symbol, name, and a brief description of its role in digital preservation. The elements are arranged in a grid, with some elements missing, creating a visual metaphor for the project's focus on digital preservation. The title "Creator Guidelines" is prominently displayed in a large, stylized font, with the subtitle "MAKING AND MAINTAINING DIGITAL MATERIALS: GUIDELINES FOR INDIVIDUALS" below it.

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

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Major funding for the InterPARES Project has been provided by the Social Sciences and Humanities Research Council of Canada, the United States National Historical Publications and Records Commission and the United States National Science Foundation. Matching funds are provided by The University of British Columbia's Hampton Fund Research Grant, the Vice President Research Development Fund, the Dean of Arts, and the School of Library, Archival and Information Studies.

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

**Creator Guidelines**  
MAKING AND MAINTAINING DIGITAL MATERIALS:  
GUIDELINES FOR INDIVIDUALS

**Elements of Preservation**


5 Mg Migration	6 Pr Protection			
8 Md Metadata	9 Bu Backup	10 It Integrity	11 Ac Accuracy	12 Ff Fixed Form
		16 Io Interoperability	17 Aw Awareness	18 Ob Obsolescence
23 Tc Trusted Curators	26 Og Organization	27 Re Reliability	29 At Authentication	30 Sc Stable Context
		34 As Accessibility		37 Id Identity



# IP 1 & 2 Final Products

- Preserver Guidelines**

Recommendations for digital preservation for archival institutions



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

**Contact Information**

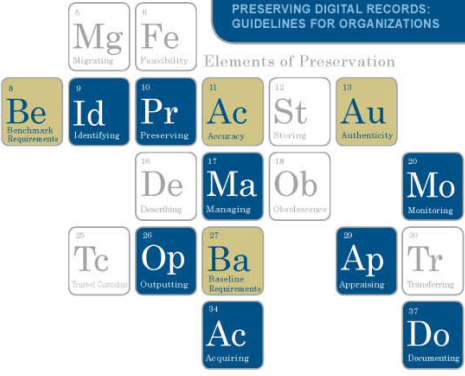
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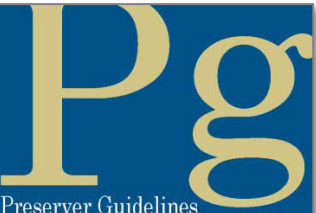
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**Elements of Preservation**

5 Mg Migrating	9 Fe Feasibility	
6 Be Benchmark Requirements	10 Id Identifying	11 Pr Preserving
	12 Ac Accuracy	13 St Sustaining
	14 De Describing	15 Ma Managing
16 Tc Travel Curator	17 Op Outputting	18 Ba Baseline Requirements
	19 Ac Acquiring	
		20 Au Authenticity
		21 Ob Obsolescence
		22 Mo Monitoring
		23 Ap Appraising
		24 Tr Transforming
		25 Do Documenting



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



# 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, and 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 change.

#### 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> <small>International Research on Permanent Authentic Records in Electronic Systems</small>	<small>Selecting Digital File Formats for Long-Term Preservation</small> <small>B. McLean</small>
<b>Title:</b> General Study 11 Final Report: Selecting Digital File Formats for 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 ..... 6
<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
	2.1 Widespread use ..... 6
	2.2 Non-proprietary origin ..... 7
	2.3 Availability of specifications ..... 8
	2.4 Platform independence (interoperability) ..... 9
	2.5 Compression ..... 10
	2.6 Discussion of criteria ..... 11
	3. Policy implications ..... 13
	4. Recommendations for developing and implementing policies ..... 16
	Appendix A: list of repositories reviewed ..... 18
	Appendix B: URLs of documents reviewed ..... 19
	Bibliography ..... 21
	<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 a screenshot of 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 and its three instruments: a Glossary, a Dictionary, and an Ontology. It also provides links to download PDF formats and a "How to cite" section.

Overlaid on the website screenshot are two hierarchical diagrams representing ontologies:

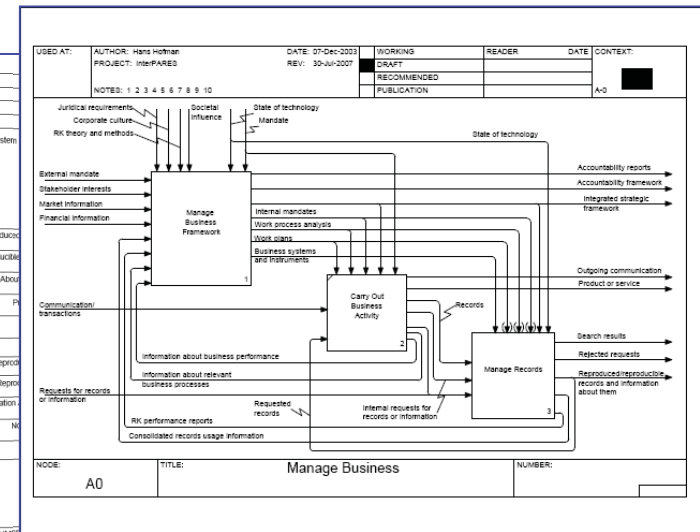
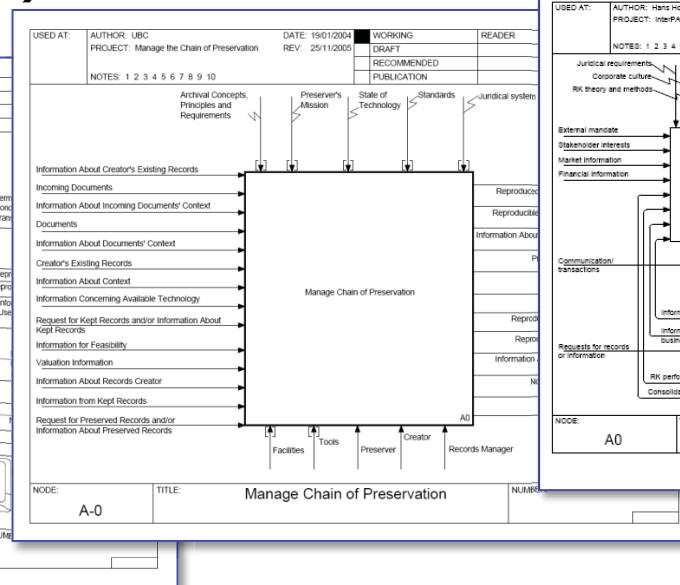
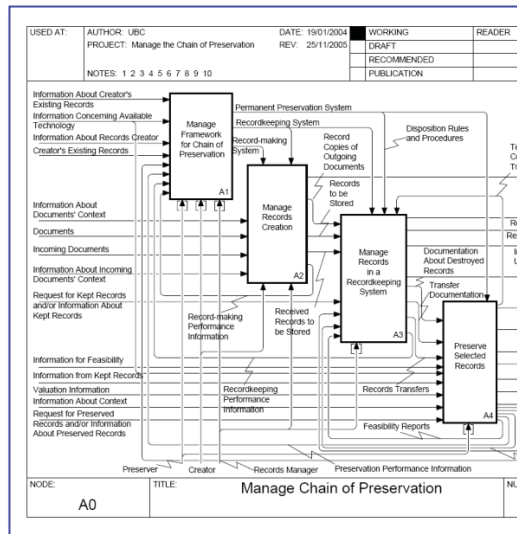
- Ontology A: Concept of a Record**
  - Archives
  - Records
  - Intellectual Components
    - Acts
    - Persons
      - Every record requires 3 persons
      - Addressee
      - Writer
      - Author
    - Archival Bond
    - Context
  - Attributes
    - Every record exists in hierarchy of contextual frameworks that move from the general to the specific
    - Judicial-administrative
    - Provenance
    - Procedural
    - Documentary
    - Technological
  - Digital Components
    - Content
    - Medium
    - Form

- Ontology C: Trustworthiness of a Record**
- TRUSTWORTHINESS
  - Is conferred to a record by its degree of
    - RELIABILITY
      - Is established by examining a record's
        - COMPLETENESS
        - CREATION PROCEDURE
    - AUTHENTICITY
      - Has two components
        - INTEGRITY
        - IDENTITY
    - ACCURACY
      - Is the degree to which records are
        - PRECISE
        - CORRECT
        - TRUTHFUL
        - PERTINENT



# IP 1 & 2 Final Products

- **Two Records Management Models**
  1. Chain of Preservation (COP) Model (lifecycle)
  2. Business-driven Recordkeeping (BDR) Model (continuum)



# 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, M., 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 medium-sized** 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.
5. **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.)

12. **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**.
13. **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.



# Methodology (general)

## Action Research

- Practical, collaborative, pragmatic research directed toward producing solutions that are **directly useful** to a group of people
- Research **subjects are co-participants** and stakeholders in the process
- **Jointly** define research objectives and goals, co-construct research questions, pool knowledge and **develop solutions** and performance tests that implement specific strategies



# Methodology (general - cont.)

## Action Research

Two distinct methods of research:

- 1. Prototype development research**
- 2. Ethnographic research**





# Methodology (general - cont.)

## Prototype development research

- User-centered, collaborative prototyping approach that explores the interplay between theory and practice
- Proof-by-demonstration
- Comprises three major iterative stages:
  1. concept building (which we have done)
  2. system building
  3. system evaluation



# Methodology (general - cont.)

## Ethnographic research

- Creators of records, their users and archivists form a community of practice—the **archival environment**—for which social interaction creates meaning and defines values
- Researchers place themselves within an archival environment to **gain the cultural perspective** of those responsible for records
- **Observation** of the environment with detailed description, extensive **interviewing and analysis** of the documents



# 3 Primary Components

## 1. **Research component**

(short-term and long-term projects, including case studies related to policy, records or systems)

## 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

### 14 regional, national & multinational TEAMS:

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

**Director:** Luciana Duranti

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

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

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



# TEAM Composition

- **Director**, principle investigator
- **Test-bed partners** (primary stakeholders)
- **Co-applicants** (individual academic researchers and professional practitioners)
- **Collaborators** (individual experts)
- **Resource partners** (e.g., ACA, NARA, LAC, CCI)
- **Graduate research assistants**



# TEAM Canada Test-beds

- Belkin Art Gallery Archives
- City of Surrey Archives (Fall 2008)
- City of Vancouver Archives (Fall 2008)
- City of Victoria Archives
- Insurance Corporation of British Columbia Archives
- Museum of Anthropology Archives
- North Vancouver Museum and Archives
- Simon Fraser University Archives
- UBC Alma Mater Society Archives
- UBC Graduate School of Journalism
- UBC Archives
- University of Victoria Archives
- Vancouver Police Department
- Canadian Tourism Commission



# TEAM Canada Resource Partners

- Archives Association of British Columbia (AABC)
- **Association of Canadian Archivists (ACA)**
- British Columbia Corporate Information Management Branch (CIMB)
- Canadian Conservation Institute (CCI)
- **Canadian Council of Archives (CCA)**
- Datawitness
- DOCAM Research Alliance (Langlois Foundation)
- Electronic Records Archives (ERA), NARA
- Irving K. Barber Learning Centre, UBC
- Library and Archives Canada (LAC)
- Royal British Columbia Museum (including the BC Archives)
- San Diego Supercomputer Center (SDSC)



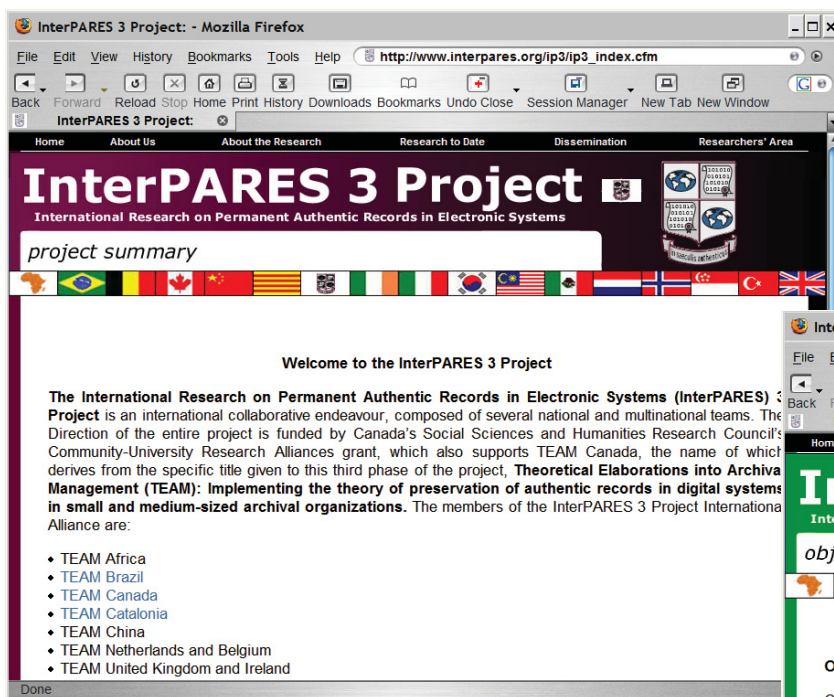


# Examples of Case Studies

- **City of Victoria**: Digitized and Born Digital Building Permits; Scheduling Legacy Files
- **Collaborative University Project (UBC, UVic, SFU)**: E-mail Management, Preservation & Access
- **Belkin Art Gallery**: Policy and Procedures for Acquisition and Preservation of Digital Art
- **Insurance Corporation of BC**: Analysis of EDRMS Configuration and Related Policies and Procedures
- **North Vancouver Museum & Archives**: Policy and Procedures for Preservation of Digital Records from a Distributed, Multi-jurisdiction Recordkeeping System
- **UBC Alma Mater Society**: Web site Preservation & Access
- **UBC School of Journalism**: Preservation and Access System for High Definition Digital Video Archive
- **Vancouver Police Department**: Policy and Procedures for Management and Preservation of Digital Images Used as Evidence



# InterPARES 3 Web Site



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

