

# InterPARES 3 Project

International Research on Permanent Authentic Records in Electronic Systems

TEAM Canada

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

Luciana Duranti

InterPARES Project Director

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ICA Kuala Lumpur

22 July 2008



**InterPARES Project**

Luciana Duranti  
Project Director

# 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

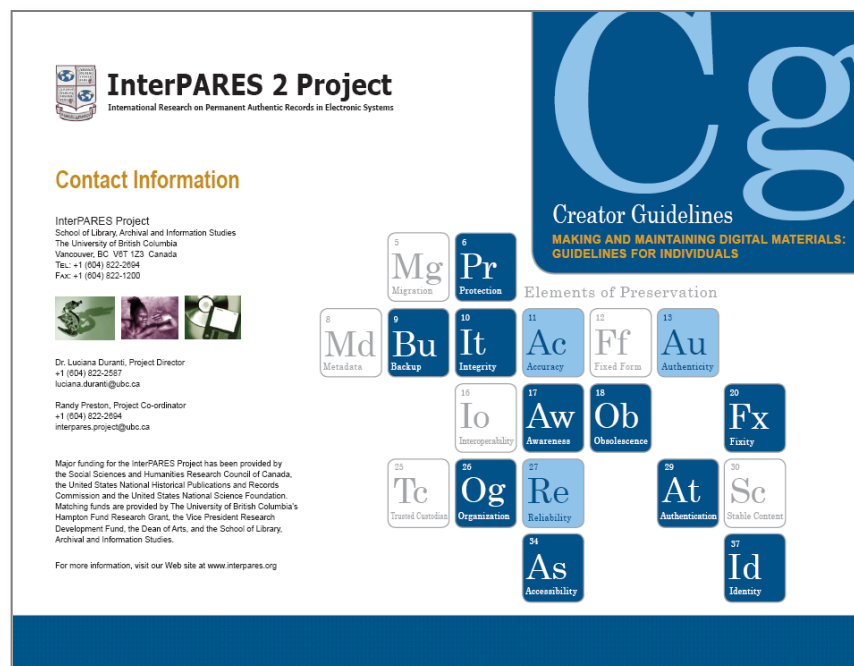
A framework of principles guiding the development of policies for records creating and preserving organizations

 <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	
<b>Status:</b> Final (public)	
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<b>Author:</b> The InterPARES 2 Project	
<b>Writer(s):</b> Luciana Duranti, Jim Suderman and Malcolm Todd	
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<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>Policy Framework, v1.2 (March 2008)</b> L. Duranti, J. Suderman and M. Todd	
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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



The image shows the cover page of the 'InterPARES 2 Project Creator Guidelines'. The title 'InterPARES 2 Project' is at the top left, with the subtitle 'International Research on Permanent Authentic Records in Electronic Systems'. Below this is the 'Contact Information' section, which includes the project's location at the University of British Columbia and contact details for Dr. Luciana Duranti and Randy Preston. To the right, the 'Elements of Preservation' are listed in a grid format, each with a number and a symbol: 5 Mg Migration, 6 Pr Protection, 8 Md Metadata, 9 Bu Backup, 10 It Integrity, 11 Ac Accuracy, 12 Ff Fixed Form, 13 Au Authenticity, 14 Io Inoperability, 17 Aw Awareness, 18 Ob Obsolescence, 20 Fx Fixity, 23 Tc Trusted Custodian, 26 Og Organization, 27 Re Reliability, 29 At Authentication, 30 Sc Stable Content, 34 As Assessability, and 37 Id Identity. The large 'Cg' logo is on the right side, and the subtitle 'MAKING AND MAINTAINING DIGITAL MATERIALS: GUIDELINES FOR INDIVIDUALS' is at the bottom right.

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

**Contact Information**

InterPARES Project  
School of Library Archival and Information Studies  
The University of British Columbia  
Vancouver, BC V6T 1Z3 Canada  
Tel: +1 (604) 822-2564  
Fax: +1 (604) 822-1200

Dr. Luciana Duranti, Project Director  
+1 (604) 822-2567  
luciana.duranti@ubc.ca

Randy Preston, Project Co-ordinator  
+1 (604) 822-2564  
interpares.project@ubc.ca

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

**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	13 Au Authenticity
14 Io Inoperability	17 Aw Awareness	18 Ob Obsolescence	20 Fx Fixity		
23 Tc Trusted Custodian	26 Og Organization	27 Re Reliability	29 At Authentication	30 Sc Stable Content	
34 As Assessability	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**

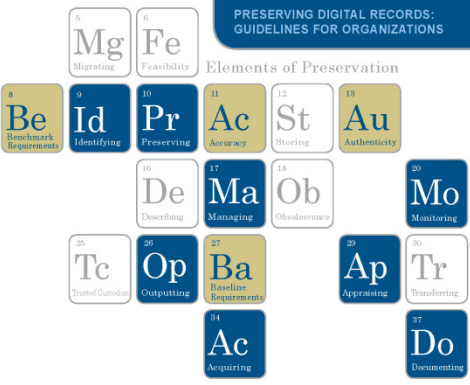
InterPARES Project  
School of Library, Archival and Information Studies  
The University of British Columbia  
Vancouver, BC V8T 1Z3 Canada  
TEL: +1 (604) 822-2694  
FAX: +1 (604) 822-1200

Dr. Luciana Duranti, Project Director  
+1 (604) 822-2587  
luciana.duranti@ubc.ca

Randy Preston, Project Co-ordinator  
+1 (604) 822-2694  
interpres.project@ubc.ca

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



**Elements of Preservation**

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

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



**InterPARES Project**

Luciana Duranti  
Project Director

# 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 that identify 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, the creator has established and 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

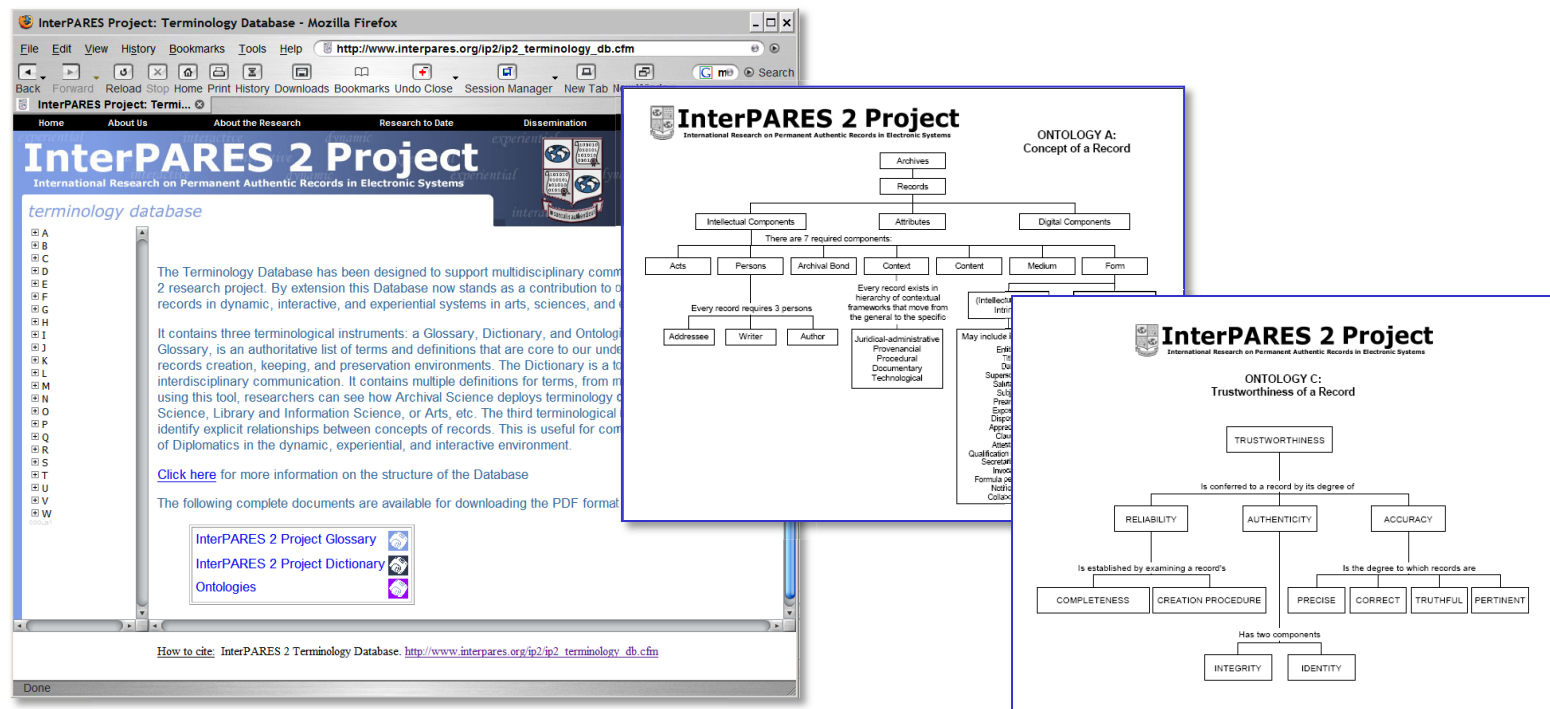
- File Format Selection Guidelines**

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>E. McLellan</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
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<b>Writer(s):</b> Evelyn Peters McLellan	1.3 "Standard" file formats .....4
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<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
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	<small>InterPARES 2 Project, Domain 3 v1.1 (March 2007)</small>



- **Terminology Database**  
Including a glossary, a dictionary and ontologies





- **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.
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.



# 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)



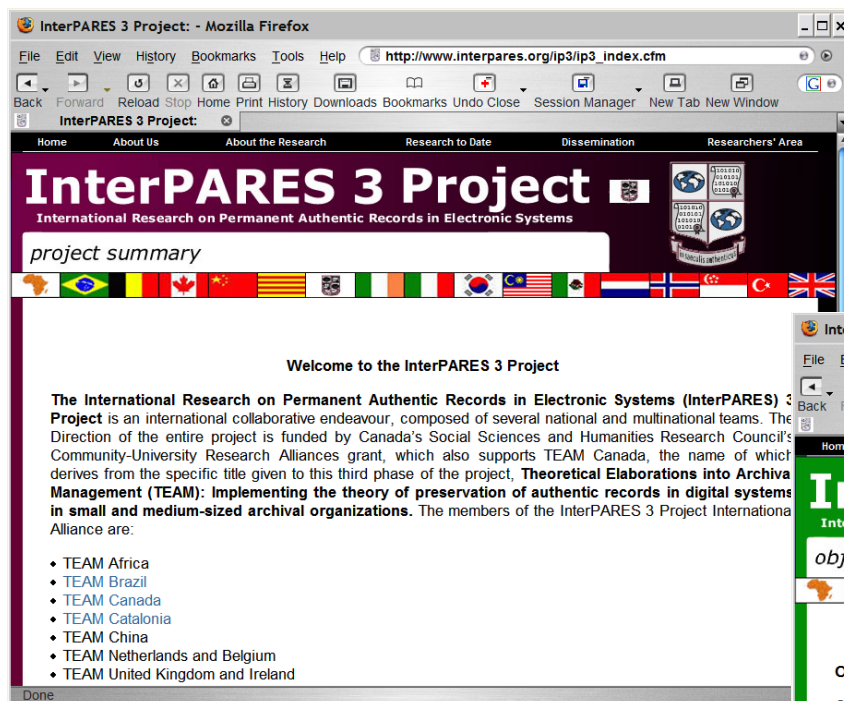
# Examples of Case Studies

- **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.interpares.org](http://www.interpares.org)



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Project Director