InterPARES: **INTE**rnational **R**esearch on **P**ermanent **A**uthentic **R**ecords in **E**lectronic **S**ystems

An International Collaborative Research Initiative

InterPARES Project
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Research Goal

To develop the theoretical and methodological knowledge essential to the permanent preservation of authentic records generated and/or maintained electronically, and, on the basis of this knowledge, to formulate model policies, strategies and standards capable of ensuring that preservation.

Research Domains

- *Domain I*: Conceptual Requirements for Preserving Authentic Electronic Records
- *Domain II*: Appraisal Criteria and Methods for Selection of Authentic Electronic Records
- *Domain III*:Methods and Responsibilities for Preserving Authentic Electronic Records
- *Domain IV*:Framework for the Formulation of Policies, Strategies, and Standards

Record

Any document created (i.e., made or received and set aside for further action or reference) by a physical or juridical person in the course of a practical activity as an instrument and by-product of it.

Document

Recorded information

Information

A message intended for communication across space or time

Data

The smallest meaningful piece of information

Electronic Record

A record created (i.e., made or received and set aside for action or reference) in electronic form

Identifiable Characteristics of an Electronic Record

- Fixed form (i.e. its binary content is stored so that it remains complete and unaltered, and its message can be rendered with the same documentary form it had when first set aside)
- Unchangeable content
- Explicit linkages to other records within or outside the digital system through a classification code or other unique identifier
- Identifiable administrative content
- Author
- Addressee
- Writer
- Participant in or supporting an action either procedurally or as part of the decision making process

A Trustworthy Record

A record that is reliable and authentic

Reliability

The ability of a record to stand for the facts it is about.

In other words, the trustworthiness of the record as a statement of facts.

Authenticity

Refers to the fact that a record is what it purports to be and has not been tampered with or otherwise corrupted.

In other words, the trustworthiness of the record as a record.

Authentication

- A declaration of authenticity, resulting either by the insertion or the addition of an element or a statement to a record, and the rules governing it are established by legislation.

- A means of proving that a record is what it purports to be at a given moment in time.

Domain 1: Task Force Methodology

- Diplomatics for definition of concepts and the construction of a template for analysis

- Grounded theory for selection of case studies

- Statistical research methods for the development and analysis of the questionnaire and the structured interviews

- Records management and archival science for the development of functional requirements for authenticity

Domain 1: Task Force Products

- Template for analysis
- Questionnaire
- Analyses and overviews of case studies
- Benchmark Requirements Supporting the Presumption of Authenticity of Electronic Records
- Baseline Requirements for the Production of Authentic Copies of Electronic Records

Conceptual Framework for the Requirements for Authenticity

- In archival theory and jurisprudence, records that are relied upon by their creator in the usual and ordinary course of business are presumed authentic

- In electronic systems, the presumption of authenticity must be supported by evidence that a record is what it purports to be and has not been modified or corrupted in essential respects. To assess the authenticity of a record, the preserver must be able to establish its identity and demonstrate its integrity

Identity of a Record

- It refers to the attributes of a record that uniquely characterise it and distinguish it from other records. These attributes include: the names of the persons concurring in its formation (I.e., author, addressee, writer and originator); its date(s) of creation and transmission; an indication of the matter or action in which it participates; the expression of its archival bond; as well as an indication of any attachment(s).

- These attributes may be explicitly expressed in an element of the record, in metadata related to the record, or implicit in its various contexts (documentary, procedural, technological, provenancial, or juridical-administrative).

Integrity of a Record

- Its wholeness and soundness. A record has integrity if it is intact and uncorrupted

- A record is intact and uncorrupted if the message that it is meant to communicate in order to achieve its purpose is unaltered

- A record's physical integrity, such as the proper number of bit strings, may be compromised, provided that the articulation of the content and its required elements of form remain the same

- Integrity may be demonstrated by evidence found on the face of the record, in metadata related to the record, or in one or more of its contexts

The Records of the Creator

- The records that exist as created. They are considered authentic because they are the same as they were in the first instantiation

- The records that have undergone some change and therefore cannot be said to exist as first created. They are considered authentic because the creator treats them as such by relying on them for action or reference in the regular conduct of business. However, their authenticity is threatened whenever they are transmitted across space or time. Therefore, an inference of their authenticity must be further supported by evidence that they have been maintained in a way that guarantees their continuing identity and integrity.

Presumption of Authenticity

An inference that is drawn from known facts about the manner in which a record has been created and maintained. The evidence supporting it is enumerated in the Benchmark Requirements. A presumption of authenticity will be based upon the number of requirements that have been met and the degree to which each has been met.

Verification of Authenticity

- The act or process of establishing a correspondence between known facts about the record and the various contexts in which it has been created and maintained, and the proposed fact of the record's authenticity, when there is an insufficient basis for a presumption of authenticity.

- It involves a detailed examination of the record in all their contexts and of reliable information available from other sources (audit trails, backups, copies preserved elsewhere, textual analysis)

Benchmark Requirement A1:
Expression of Record Attributes & 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.

Benchmark Requirement A1:

- *A.1.a*

  Identity of the record:

- *A.1.a.i*

  Names of the persons concurring in the formation of the record, that is: name of author, writer, originator, and addressee

- *A.1.a.ii*

  Name of action or matter

- *A.1.a.iii*

  Date(s) of creation and transmission, that is: chronological date, received date, archival date, transmission date(s)

- *A.1.a.iv*

  Expression of archival bond

- *A.1.a.v*

  Indication of attachments

Benchmark Requirement A1:

- *A.1.b*

    Integrity of the record:

- *A.1.b.i*

    Name of handling office

- *A.1.b.ii*

    Name of office of primary responsibility

- *A.1.b.iii*

    Indication of types of annotations added to the record

- *A.1.b.iv*

    Indication of technical modifications

Benchmark Requirement A2:
Access Privileges

The creator has defined and effectively implemented access privileges concerning the creation, modification, annotation, relocation, and destruction of records

Benchmark Requirement A3:
Protective Procedures: Loss and Corruption of Records

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

Benchmark Requirement A4:
Protective Procedures: Media and Technology

The creator has established and implemented procedures to guarantee the continuing identity and integrity of records against media deterioration and across technological change

Benchmark Requirement A5:
Establishment of Documentary Forms

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

Benchmark Requirement A6:
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 whom, and the means of authentication

Benchmark Requirement A7:
Identification of Authoritative Record

If multiple copies of the same record exist, the creator has established procedures that identify which record is authoritative

Benchmark Requirement A8:
Removal and Transfer of Relevant Documentation

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

Baseline Requirements for the Production of Authentic Copies

- After the records have been presumed or verified authentic in the appraisal process, and have been transferred from the creator to the preserver, their authenticity needs to be maintained by the preserver by reproducing them and authenticating the resulting copies

- The production of authentic copies is regulated by a second set of requirements that must all be met and are therefore called "baseline requirements"

Baseline Requirement B1:
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:

- unbroken custody of the records is maintained;
- security and control procedures are implemented and monitored; and
- the content of the record remains unchanged after reproduction

Baseline Requirement B2:

Documentation of Reproduction Process and its Effects

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

- the date of the records' reproduction and the name of the responsible person;

- the relationship between the records acquired from the creator and the copies produced by the preserver;

- the impact of the reproduction process on their form, content, accessibility and use; and

- 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

Benchmark Requirement B3:
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.

Authentic copies

- An electronic copy of an authentic electronic record is authentic if attested to be so by the official preserver. Such attestation is supported by the preserver's ability to demonstrate that it has satisfied all the baseline requirements for the production of authentic copies. By virtue of this attestation, the copy is deemed to conform to the record it reproduces until proof to the contrary is shown

Problem

Most databases and document management systems used in governance do not contain records, making it difficult to apply the requirements.

With the advent of electronic government and the creation of interactive documents, it will be vital to ensure that complete and effective "records" are generated and maintained

Fundamental Points

- It is not possible to preserve an electronic record, but only to preserve the ability to produce it again from storage upon request

- The best method of ensuring ongoing authenticity of electronic records is external to the records themselves and involves a tight control on record-making and record-keeping procedures and on the flow of metadata into the record's formal elements
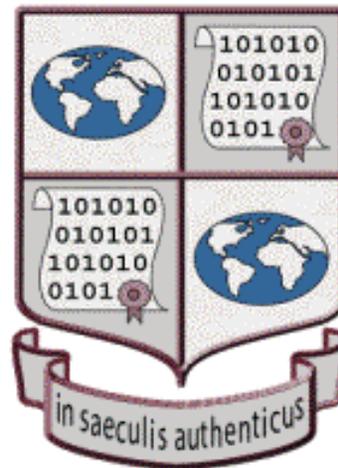
Reference

For the findings of InterPARES and related models of appraisal and preservation see the project's web site:

http://www.interpares.org