Authenticity as a Social Contract—We Are Our Records

Corinne Rogers
University of British Columbia
cmrogers@mail.ubc.ca

Joe Tennis
University of Washington
jtennis@uw.edu

Abstract

This poster presents the authors' work to date on developing an application profile for authenticity metadata (the IPAM, or InterPARES Authenticity Metadata), including (1) the functional requirements, (2) metadata elements derived from the Chain of Preservation model from the InterPARES research project, (3) a crosswalk of a sample of IPAM elements to Dublin Core, PREMIS, and MoReq2010, (4) those elements deemed essential to presume the authenticity of a record as it moves from creation to permanent preservation, and (5) next steps, integrating the application profile into the Archivematica preservation system the core elements of the application profile relating to maintaining the presumption of authenticity through preservation and access.

Keywords: metadata, authenticity, social contract, application profile

Records are defined in archival science as documents made or received in the course of practical activity and set aside for further action or reference (Duranti, 2009). Records are shared across space and over time, participating in complex social interactions. Their provenance and relationship with the actions and functions in which they participate or which they document involves them in a social contract. Social interaction, whether in person or online, involves a social contract between participants that is based on trust.

It is commonly accepted that the records that document our actions and transactions, and the data that fuels the information highway must be trustworthy. Trustworthiness depends on our ability to assess many elements, including authenticity of the record (that is its identity and integrity), its reliability (a measure of its completeness and the controls exercised on the process of its creation), and its accuracy (the truthfulness, precision, and completeness of its data content) (Duranti, 2009). Maintaining the presumption of authenticity of digital records is a pressing concern for society.

Digital records are the lasting traces of actions and transactions, and their evidentiary capacity depends on their authenticity, reliability and accuracy, established at creation, and maintained and preserved over time and across technological change. Metadata, the machine- and human-readable assertions about information resources, enables intellectual, physical, and technical control over information resources, that is, it enables the trustworthiness of records. It is primarily discussed in the context of information retrieval and preservation. However, metadata provides key elements establishing record authenticity – that is, identity and integrity. While functional requirements for preservation metadata are transitioning from research to standardization and implementation (e.g., PREMIS), little work has connected archival theory with functional requirements for authenticity metadata (cf. MoReq, ISO, AGrKMS). However, there is a wealth of research into the requirements for authenticity and reliability of records at their creation, and throughout their life cycle, culminating in preservation (Duranti & Preston, 2008). Many extant metadata schemas account for identity and integrity (the components of authenticity), but do not explicitly capture the attributes identified and required by the International Research on Permanent Authentic Records in Electronic Systems (InterPARES) project. And although we may be able to repurpose some aspects of metadata schemas to capture identity and integrity metadata, it is incomplete (according to InterPARES requirements and by extension, diplomatic analysis), and risks being confused with the original purpose of the repurposed metadata schema. This would violate the requirement for interoperability established within the context of InterPARES 2 and codified in InterPARES 3 (Tennis, 2010; Tennis & Rogers, 2012).

Rogers, C., & Tennis, J. (2013). Authenticity as a social contract—We are our records. *iConference 2013 Proceedings* (pp. 801-803). doi:10.9776/13393

We achieve confidence in records – the products, byproducts, and residue of our activities and transactions online – through a balance of mechanisms of trust and control (Cofta, 2007). Trust in records is based on what we know about their creator and/or their custodian: their *reputation*, evaluated on past actions and conduct; their *performance*, or the relationship between the trustee's present actions and the conduct required to fulfill his or her current responsibilities as specified by the truster; c*ompetence*, which consists of having the knowledge, skills, talents, and traits required to be able to perform a task to any given standard; and c*onfidence*, which is an "assurance of expectation" of action and conduct the truster has in the trustee (Borland, 2009; Duranti & Rogers, 2011; Sztompka, 1999).

The determination and assessment of authenticity depends on the circumstances of record creation, and framework of subsequent preservation. According to InterPARES, to assess the authenticity of a digital object, one must be able to establish its identity and demonstrate its integrity. The identity of a digital object is established by the attributes of the object that uniquely distinguish it from other objects, while integrity refers to its wholeness and soundness, that is, the degree to which it is complete and uncorrupted. InterPARES recognized and articulated the difference between the form in which a document is viewed by a person reading it, and that in which it is stored in the electronic system. The layers of abstraction introduced by the technology between the physical and logical record have implications for the assessment of authenticity. This significant difference between paper and digital records is at the root of the challenges of integrating digital records with the legal system's conception of documentary evidence.

This poster visualizes the authors' work to date on developing an application profile for authenticity metadata (the IPAM, or InterPARES Authenticity Metadata). This is design research. As design research, the methodology followed a course of knowledge acquisition: (1) establish the desired outcome for metadata schema; (2) follow the DCMI Singapore Framework; (3) develop functional requirements and model those through entity relationship diagrams in order to then construct an IP3 application profile; and (4) vet this with stakeholders, researchers, and the DCMI community.
The research was undertaken through the lens of archival theory in general, and the findings of InterPARES 1 and 2 specifically, applied in relation to the Guidelines for Application Profiles and the Singapore Framework, both issued by the DCMI. We were guided by literature on the creation of application profiles (Heery & Patel, 2000), and examples of application profiles (Collections and Scholarly Works Application Profiles).

In this poster we present five things. (1) We begin with the functional requirements of authenticity metadata and entity relationship diagrams of the modeled entities. (2) We then offer a graphical representation of the metadata elements derived from the Chain of Preservation model from the InterPARES research project. (3) These elements are then crosswalked to an illustrative sample of IPAM elements to Dublin Core, PREMIS, and MoReq2010. (4) Then we highlight those elements deemed essential to presume the authenticity of a record as it moves from creation to permanent preservation. We organize the material in the form of a visualization of the records life cycle, showing insertion points for metadata at key moments of creation, capture, appraisal, disposition, and preservation. Finally, (5) we describe upcoming and continuing work in collaboration with Artefactual Systems (http://artefactual.com/). This work integrates the application profile into the Archivematica preservation system using elements relating to maintaining the presumption of authenticity through preservation and access.

References

Borland, J. (2009). Trusting Archivists. *Archivi and Computer*, *XIX*(1), 94–106.

Cofta, P. (2007). Trust, Complexity and Control: Confidence in a Convergent World (1st ed.). Wiley.

Duranti, L. (2009). Diplomatics. In M. Bates, M. N. Maack, & M. Drake (Eds.), *Encyclopedia of Library and Information Science*. New York, Basel, Hong Kong: Marcel Dekker, INC.

Duranti, L., & Preston, R. (2008). Research on Permanent Authentic Records in Electronic Systems (InterPARES) 2: Experiential. Interactive and Dynamic Records. Padova: Associazione Nazionale Archivistica Italiana.

Duranti, L., & Rogers, C. (2011). Educating for trust. *Archival Science*, *11*(3-4), 373–390. doi:10.1007/s10502-011-9152-3

Heery, R., & Patel, M. (2000). Application Profiles: Mixing and Matching Metadata Schemas. *Ariadne*, *25*. Retrieved from http://www.ariadne.ac.uk/issue25/app-profiles

Sztompka, P. (1999). *Trust a sociological theory*. Cambridge, UK; New York, NY: Cambridge University Press.

Tennis, J. T. (2010, 17). *Metadata Developments: Interoperability across systems, time, and conceptions*. Presented at the InterPARES 3, 4th International Symposium, Oslo, Norway.

Tennis, J. T., & Rogers, C. (2012). *General Study 15: Metadata Application Profiles for Authenticity*. University of British Columbia.