2014

Deconstructing the Critical Theory Archive at UCI: An Experiment with EAC-CPF and Linked Open Data

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ABSTRACT

The University of California, Irvine (UCI) Libraries has begun a pilot project exploring the use of Encoded Archival Context-Corporate Bodies, Persons, and Families (EAC-CPF) and linked open data to expose contextual information about holdings in UCI's Critical Theory Archive (CTA). The project team has identified a number of goals emphasizing public service, sustainability, and scalable experimentation. This work-in-progress article reports the pilot's background, scope, status through July 2014, and future plans.

Introduction

The University of California, Irvine (UCI) Libraries has begun a pilot project exploring the use of Encoded Archival Context-Corporate Bodies, Persons, and Families (EAC-CPF) and linked open data to expose contextual information about holdings in UCI's Critical Theory Archive (CTA). The project team has identified a number of goals emphasizing public service, sustainability, and scalable experimentation.

The primary goal is the successful development of a local authority file accessible to the public via the CTA webpage on the Special Collections & Archives (SCA) department website.[1] This tool should support and enhance scholarly research in CTA by serving as a unique guide to the networked relationships between critical theorists

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1.   UCI Libraries Special Collections & Archives, "Critical Theory Archive," University of California, Irvine, http://special.lib.uci.edu/collections/critical-theory-archive/index.html (accessed May 7, 2014).

represented in our holdings and identifying interconnections within the collections themselves.

The development of a sustainable model for future EAC-CPF projects at UCI is a secondary goal. Identification of responsibilities, expertise, and tools that are required, as well as the most efficient means of integrating these resources, is essential to executing projects within a standard staffing and operational workflow without special funds and project staff.

Finally, the EAC-CPF project will be a test of the new standard's utility and potential. By creating a usable end product rather than an illustrative prototype, we intend to build on the work of exploratory EAC-CPF projects.[2] We also seek to demonstrate how EAC-CPF may function as linked open data by experimenting with the Resource Description Framework (RDF) data model and ontologies.

Project Rationale and Scope

The CTA was selected for this project because of its relatively small size, high level of user interest, and well-documented relationships between its source entities. With twenty-six CTA finding aids uploaded to the Online Archive of California (OAC), it is a manageable size for a pilot project. CTA resources account for only 4 percent of SCA's total collections but comprised 14 percent of total collections used by patrons from April to December of 2013.[3] Most importantly, the inherent interconnectedness of the material within the CTA makes it ideal for experimentation with, and implementation of, EAC-CPF and linked open data. Because it contains the papers of intellectuals overlapping in similar scholarly circles, the CTA can be seen as an assortment of collections of conversations amongst colleagues. It is not atypical, for example, to find letters from one individual, whose papers UCI holds, in the collection of another. Many of the CTA collections were acquired through a network of theorists who have influenced each other and subsequent generations of scholars.

To keep our work within a feasible scope, the project will focus exclusively on identifying personal and corporate entities directly affiliated with the CTA. This will include individuals whose papers are part of the CTA as well as the schools, departments, or other administrative units on the UCI campus that supported the work of those individuals. Relationships will be established among these entities only, and all related resources will be limited to archival collections and publications held at UCI.

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2. Notable projects include "SNAC: Social Networks and Archival Context," University of Virginia, http://socialarchive.iath.virginia.edu/index.html (accessed May 7, 2014); and "Connecting the Dots: Using EAC-CPF to Reunite Samuel Johnson and His Circle," Harvard Wiki, last modified October 12, 2012, https://wiki.harvard.edu/confluence/display/connectingdots/Connecting+the+Dots:+Using+EAC-CPF+to+Reunite+Samuel+Johnson+and+His+Circle (accessed May 7, 2014).

3. "Quarterly Reports," UCI Libraries Special Collections & Archives Wiki, staff authorization required for access; data compiled from second, third, and fourth quarter reports for 2013.

Overview of the Critical Theory Archive

Though officially established in 1996, the CTA has its roots in the early history of advanced scholarship on the UCI campus. In 1966, Dr. Murray Krieger came to UCI with the goal of developing a program in the department of English and Comparative Literature that would be devoted to the study and application of an emergent school of analysis known as Critical Theory. Critical Theory, based in Kantian and early 20th century German philosophy, is sometimes thought to be synonymous with anti-formalist literary theory specifically, but has a more widely applicable interest in affecting radical social change through analysis. For this reason, academics of diverse backgrounds, including history, politics, and anthropology, look to Critical Theory to examine the theoretical basis of their own fields.[4]

UCI Libraries' SCA began its foray into Critical Theory in 1981 with the acquisition of the René Wellek Collection of the History of Criticism. While this first collection was composed primarily of rare books, the CTA today primarily holds the scholarly papers of many major figures who have worked in the field, especially those who played a key role in the development of the field at UCI.[5] Most of the individuals whose papers are held in the CTA were at some point affiliated with UCI, particularly as faculty members. We do, however, hold collections of a few non-UCI affiliates, most famously the papers of Paul de Man, Richard Rorty, and Stanley Fish. We have found that, while they may not have a direct connection to UCI, most of these individuals are separated from the institution by only one or two degrees through their relationship with a colleague.

In addition to personal papers, the CTA contains several institutional collections from the Critical Theory Emphasis (CTE) and the Critical Theory Institute (CTI), the invitational reading and research group formed by critical theory faculty in the late 1980s. This material is composed mainly of audio recordings of lectures, seminar material, and material from joint projects undertaken by CTI members.[6] The CTA also has selected books and offprints by scholars whose papers we hold.[6]

The CTA's user base is primarily composed of scholars who hold advanced degrees in the humanities. Many of these patrons are visiting scholars, both graduate students and faculty, who travel to UCI on short, often grant-funded, research trips. While CTA users are experts in their respective fields and savvy information seekers, they often have a limited amount of time to spend with us and may not be able to

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4.　Ibid.; UCI Libraries Special Collections & Archives, "Critical Theory Archive: About Critical Theory," University of California, Irvine, http://special.lib.uci.edu/collections/critical-theory-archive/about-critical-theory.html (accessed May 14, 2014).

5.　Ibid.; "Collecting Priorities: The Critical Theory Archive" in "Special Collections & Archives Collection Development Policy," UCI Libraries Special Collections & Archives Wiki; staff authorization required for access.

6.　Ibid.

return. Most of the CTA user base is from inside the United States, but statistics from the OAC and our digital collections show that the CTA draws an international audience. For example, the second highest number of hits on a collection of unpublished manuscripts by Paul de Man accessible online through UCIspace @ the Libraries, the UCI Libraries' digital collections portal, comes from China, and the third is from the United Kingdom.[7] We hope that the records generated from this project will have enough detail to help our patrons come to the archives better prepared, as well as find collections and make connections in new ways, something that scholars of Critical Theory are anxious to do. As one of our patrons put it:

> "Working within one writer's papers, one quickly realizes how closely-knit the community of scholars was, through conferences, translations, seminars, mutual referencing, and quotidian departmental inner workings. The connections are already there; making them explicit would activate an essential component of critical theorists' writing processes and the intellectual community they worked to develop."[8]

We believe EAC-CPF records are the best resource to support this important turn in Critical Theory research toward intellectual genealogy and community.

Creating ISAAR (CPF) Record Content

In 1996, the International Council on Archives Ad Hoc Commission on Descriptive Standards (ICA/DDS) released a content standard to fulfill the ambitious goal of constructing an international archival name authority file akin to local bibliographic name authorities, like that maintained by the Library of Congress.[9] Since the mid-nineties, *ISAAR-CPF: International Standard Archival Authority Record For Corporate Bodies, Persons, and Families*, in tandem with its encoding standard EAC-CPF, has only become more relevant as archivists attempt to harness the power of the Semantic Web to expose hidden collections and highlight valuable resources in new and interesting ways. We selected ISAAR (CPF) as our content standard of choice because of its direct connection to EAC-CPF, which is reflected in the availability of an ISAAR (CPF) Crosswalk at the end of the EAC-CPF tag library.[10]

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7. "Statistics" in "Paul de Man Manuscripts," UCI Libraries Special Collections & Archives, UCIspace @ the Libraries; staff authorization required for access. UCIspace @ the Libraries is available at http://ucispace.lib.uci.edu/.

8. Laura Elspeth Neeley Hughes, email to Alexandra Bisio, July 11, 2014.

9. International Council on Archives, *ISAAR (CPF): International Standard Archival Authority Record For Corporate Bodies, Persons, and Families*, Second Edition (Canberra, Australia: Committee on Descriptive Standards, 2003), 8.

10. "Encoded Archival Context-Corporate Bodies, Persons, and Families (EAC-CPF) Tag Library, Version 2010 (Initial Release)," Encoded Archival Context Working Group of the Society of American Archivists and The Staatsbibliothek zu Berlin, http://www3.iath.virginia.edu/eac/cpf/tagLibrary/cpfTagLibrary.html (accessed May 7, 2014).

While the latest edition of *Describing Archives: A Content Standard* (DACS) devotes Part II to archival authority records, "DACS elements match the required elements found in the International Standard Archival Authority Record for Corporate Bodies, Persons and Families (ISAAR[CPF])."[11] In order to best learn EAC-CPF, we opted to work directly with ISAAR (CPF) and take full advantage of the crosswalk.

The Social Networks and Archival Context (SNAC) prototype hosted by the California Digital Library (CDL), UC Berkeley, and the University of Virginia served as a starting point for our ISAAR (CPF) records.[12] While many of the individuals we plan to link are represented in the SNAC prototype, which created its records through the harvesting of finding aid data, we have generally found the record content too limited for our expert users. Our goal is for patrons to search our resources and use linked open data to find connections among the individuals represented in our collections specifically, which requires information that is both beyond the current iteration of SNAC and unique to our holdings. With this goal in mind, we are adding more biographical context via the following ISAAR (CPF) fields: dates of existence; places; functions, occupations, and activities; category of relationship; description of relationship; and dates of the relationship. This will not only accommodate additional types of information, but also make existing elements more granular. For example, while the SNAC prototype lists very broad occupations in its record for Jacques Derrida ("theorist," "philosopher," "literary critic"), we are also including a list of academic appointments and professional positions, along with corresponding locations and dates, so users may link theorists by university or appointment held.[13] We are also discussing local elements that could be added into the general context field, such as "school of thought" (e.g. Pragmatism, Deconstruction), which would allow entities to be linked intellectually. Most of the research for the additional descriptive information is done through a thorough study of our finding aids, books in our collections, the personal papers of these individuals, and Web resources. We hope the added value of our records will give users an enhanced research and learning experience with the CTA.

Getting to Know EAC–CPF

Before working directly with the standard, we studied the EAC-CPF tag library to determine how best to represent the content of the ISAAR (CPF) records. The ISAAR (CPF) Crosswalk provided a foundation for this work, allowing the records' metadata elements to be identified by their equivalent EAC-CPF tags. However, the descriptive

11.   Society of American Archivists, *Describing Archives: A Content Standard*, Second Edition (Chicago, Illinois: Society of American Archivists, 2013), 92.

12.   "SNAC: Social Network and Archival Context," University of Virginia, http://socialarchive.iath.virginia.edu/prototype.html (accessed May 14, 2014).

13.   SNAC prototype: "Derrida, Jacques," University of Virginia, http://socialarchive.iath.virginia.edu/xtf/view?docId=derrida-jacques-cr.xml (accessed May 14, 2014).

granularity of our records required a more in-depth understanding of how the tags worked together, especially in terms of nesting and repeatability. Contact was made early on with Katherine Wisser, Co-Chair of the Society of American Archivists (SAA) Technical Subcommittee on EAC-CPF, who provided much needed clarification regarding the intended use and function of certain tags.[14] The wiki documentation from the joint Harvard/Yale project "Connecting the Dots: Using EAC-CPF to Reunite Samuel Johnson and His Circle,"[15] as well as email communication with project team member Melanie Wisner, Accessioning Archivist at Harvard's Houghton Library, offered invaluable insight into both the standard and the logistics of planning an EAC-CPF project.[16] In particular, the wiki pages on *EAC-CPF Procedures and Best Practices (Final)* gave us a better grasp on how to use many of the tags and answered some remaining questions left unclear in the tag library.[17]

While several scenarios were developed for expressing the more complex description in the places and functions, occupations, and activities elements of our authority records, we needed to test the validity of these in an XML editor. For this reason, investigation into a viable tool for efficiently generating EAC-CPF records occurred simultaneously.

From ArchivesSpace to xEAC

For the sake of expedient and efficient description during this project, the team agreed at the outset that we would not encode each record by hand. Because UCI is a charter member of ArchivesSpace, we hoped to use the new system to input our authority data and export robust EAC-CPF records. The most current version of ArchivesSpace at that time (1.0.7.1) had the capability to add related agents to agent records—capturing relationship types, dates, and descriptions—and download EAC-CPF records.[18] However, when we opened the minimal test record created for Jacques Derrida in an XML editor, we learned that ArchivesSpace's export functionality for EAC-CPF is not yet robust enough to meet our project needs. Not everything

14. Katherine Wisser, email to Sara Seltzer, March 18, 2014.

15. "Connecting the Dots: Using EAC-CPF to Reunite Samuel Johnson and His Circle," Harvard Wiki, last modified October 12, 2012, https://wiki.harvard.edu/confluence/display/connectingdots/Connecting+the+Dots%3A+Using+EAC-CPF+to+Reunite+Samuel+Johnson+and+His+Circle (accessed May 7, 2014).

16. Melanie Wisner, emails to Sara Seltzer, February 26 and 27, 2014.

17. "EAC-CPF procedures," Harvard Wiki, last modified August 8, 2013, https://wiki.harvard.edu/confluence/display/connectingdots/EAC-CPF+procedures (accessed May 7, 2014); "Best Practices (Final)," Harvard Wiki, last modified August 22, 2012, https://wiki.harvard.edu/confluence/pages/viewpage.action?pageId=50528611 (accessed May 7, 2014).

18. Knowledge of EAC-CPF support came from ArchivesSpace v.1.0.7.1. As of August 15, 2014, ArchivesSpace, http://archivesspace.org/, is in version 1.0.9.

captured in the ArchivesSpace staff interface was exported, and what was transferred in the resulting EAC-CPF record was not valid XML encoding. Moreover, the system did not have support for other descriptive elements, namely places and functions, occupations, and activities, which we plan to include in our records. Nonetheless, it provided a foundation to build upon and allowed us to test our preliminary description scenarios.

In an effort to see what it would take to make the exported ArchivesSpace record valid and whether the necessary modifications could be easily applied via cut-and-paste, the decision was made to augment by hand the "skeleton" Derrida record. This proved to be an essential step not only in ruling out ArchivesSpace as our tool of choice because the modifications necessitated by the current version were too labor-intensive, but also in learning the EAC-CPF standard. Some of our initial ideas for structuring more complex descriptive metadata, particularly in the <places> and <occupations> tags, were invalid within the EAC-CPF schema, which prompted further trial-and-error experimenting to find valid ways of expressing our content. This process illustrated the extreme rigidity of the standard overall: unlike the flexible ordering of elements within Encoded Archival Description (EAD), a valid EAC-CPF document requires that elements be in a prescribed order. In addition, some of the more discursive elements needed to accommodate narrative description, particularly <descriptiveNote>, cannot be used more than once within parent wrapper elements. Having this insight will help us in the development of local best practices going forward.

We also consulted the Remixing Archival Metadata Project (RAMP) editor developed by the University of Miami Libraries. The primary functions of this Web-based tool are the repurposing of EAD metadata for use in EAC-CPF records and transformation of EAC-CPF into wiki markup for publication on Wikipedia. The editor also supports creation of new EAC-CPF records, providing a Web form for users to input authority data. Users can then "enhance those records with additional data from sources like VIAF and WorldCat Identities."[19] While these features are critical for our purposes, RAMP is not designed to be "a robust management system for EAC-CPF records" and only "implements a subset of the EAC-CPF schema."[20] In using the editor demo site, we discovered that the relationship data imported from VIAF and WorldCat Identities is out of scope at this stage of the CTA project, as it not only generates relations that are not affiliated with UCI or CTA, but also omits the vast majority of the relations we want to include for our entities. Moreover, when revising existing records, the interface reverts to an XML view of the record rather

19. "Welcome to RAMP," Remixing Archival Metadata Project, http://demo.rampeditor.info/ (accessed May 21, 2014).

20. Allison Jai O'Dell and Timothy A. Thompson, "Remixing Archival Metadata Project (RAMP) editor," part of webinar *Beyond EAD: Tools for Creating and Editing EAC-CPF Records and "Remixing" Archival Metadata*, recorded January 9, 2014, http://oclc.org/research/events/2014/01-09.html (accessed May 21, 2014).

than the initial Web form. The utility of RAMP to enhance Wikipedia entries with archival authority data is something we plan to take advantage of once our EAC-CPF records are created, but we will not use it as a record creation tool.

We ultimately selected xEAC, a beta XForms application developed by Ethan Gruber of the American Numismatic Society,[21] for use in this project. While tailored to the inputting of authority data documenting the classical world, xEAC can be used by any institution to create and publicly display EAC-CPF records. xEAC is an especially desirable tool because it is programmed to extract authority and contextual data from VIAF, DBpedia, the Getty's Art & Architecture Thesaurus (AAT), and GeoNames, all of which function as linked open data essential to our long-term project goals.[22] Support was also recently added for LCNAF linked open data for geographic names.[23] Unlike RAMP, xEAC does function as a management system for authority records, allowing new records to be created for relations added to an existing record and linking the system-generated URIs for both. Exporting of our minimal Derrida test record, which included imported linked data from VIAF, DBpedia, and AAT, resulted in valid XML encoding; we have yet to develop and test a more granular version of the record (see Appendix A). Access to xEAC for testing purposes was generously provided to the project team by the CDL.

Implementing a local instance of xEAC is a critical step in our project, as production of robust EAC-CPF records cannot occur until it is in place. While our preliminary description scenarios yielded valid XML encoding, they must be rendered in a browser environment in order to evaluate their usefulness for end-users. This, in turn, will inform development and fine-tuning of local best practices for EAC-CPF.[24]

Future Plans: Linked Open Data

The ambitious goal of linked data is to make information interpretable by both humans and computers, hence maximizing the possibilities of how information is

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21. Ethan Gruber, "XForms for Archives," accessed May 15, 2014, http://eaditor.blogspot.com/; "ewg118/ xEAC," GitHub Inc., https://github.com/ewg118/xEAC (accessed May 15, 2014).

22. "VIAF: Virtual International Authority File," OCLC, http://www.oclc.org/viaf.en.html (accessed May 15, 2014); DBpedia, http://wiki.dbpedia.org/About; "Getty Vocabularies as Linked Open Data," The Getty Research Institute, http://www.getty.edu/research/tools/vocabularies/lod/index.html (accessed May 15, 2014); and "About GeoNames," GeoNames, http://www.geonames.org/about.html (accessed May 15, 2014).

23. Ethan Gruber, email to author, May 21, 2014; "LC Linked Data Service: Authorities and Vocabularies," Library of Congress, http://id.loc.gov/ (accessed May 22, 2014).

24. A document entitled "ISAAR(CPF)/EAC-CPF Record Creation Guidelines (Draft)" is available at http://staff.lib.uci.edu/departments/sca/policies-procedures-forms.php under the heading "Archival Technical Services" (accessed May 21, 2014). It includes instructions for creating ISAAR(CPF) records in Word and data entry practices for encoding EAC-CPF records in xEAC. This document will be updated as the project progresses.

interlinked, aggregated, and discovered. Linked data, which features structured, independent information entities that are application and domain agnostic, can be remixed in limitless ways. The strength of linked data is in identifying and asserting relationships among information entities using standard Web protocols that are machine-friendly, leading to the revealing of interconnectedness beyond human abilities. If linked data is published on the open Web, it is generally called "Linked Open Data" (LOD). LOD is licensed under open licenses permitting reuse. W3C's *Linked Data Glossary*[25] is a ready reference and Eric Lease Morgan's *Linked Archival Metadata: A Guide Book* provides in-depth yet easy-to-understand knowledge on the topic with extensive examples.[26]

The concept of linked data is manifested by RDF, a data model based on the idea and use of a "triple" stating a specific fact. A triple consists of three distinct parts: a subject, an object, and a predicate (denoting the relation between subject and object, and expected to be a member of an established ontology). Each part may take the form of a URI (Universal Resource Identifier) or a literal (meaning a word, phrase, narrative, or number), although the use of URIs is at the heart of linked data. The structure of a triple is similar to that of a simple "subject, verb, object" sentence. A subject in one RDF statement (or triple) may be the object of another RDF statement, and a predicate in one RDF statement may be identical to that of another. By universally identifying these nodes of information, deep interlinking occurs—leading to novel answers to questions and inference of new knowledge. In our project, we will use established URIs, namely those provided by the Library of Congress Linked Data Service,[27] VIAF, or WorldCat Identities;[28] and design them, when necessary, following the principle of "cool" URIs[29] or working with Open GUID.[30]

RDF ontologies and vocabularies, on the other hand, are "languages" of linked data. W3C notes, Semantic Web "vocabulary can be considered as a special form of (usually light-weight) ontology."[31] They are comprised of both pre-defined classes of objects and properties of the objects for different purposes. Because of the nature and long-term goals of this project and with interoperability and sustainability issues in

25. "Linked Data Glossary," W3C, http://www.w3.org/TR/ld-glossary/ (accessed May 21, 2014).

26. Eric Lease Morgan and LiAM, *Linked Archival Metadata: A Guidebook (version 0.99)*, created April 23, 2014, http://infomotions.com/sandbox/liam/tmp/guidebook.pdf (accessed May 15, 2014).

27. "LC Linked Data Service: Authorities and Vocabularies," Library of Congress, http://id.loc.gov/ (accessed May 18, 2014).

28. "WorldCat Identities," OCLC Online Computer Library Center, Inc., http://www.worldcat.org/ identities/ (accessed May 21, 2014). Example record for Jacques Derrida: http://www.worldcat.org/ identities/lccn-n79092610/ (accessed May 21, 2014).

29. "Cool URIs for the Semantic Web," W3C, http://www.w3.org/TR/cooluris/ (accessed May 18, 2014).

30. "Open GUID," OpenGUID, http://openguid.net/ (accessed May 21, 2014).

31. "Ontology," Semantic Web, http://semanticweb.org/wiki/Ontology (accessed May 21, 2014).

mind, we are currently considering the following RDF ontologies and vocabularies on top of our robust descriptions in EAC-CPF: DC (Dublin Core),[32] FOAF (The *Friend of a Friend* project),[33] Ontology from the *Linking Lives* project,[34] SIOC (Semantically-Interlinked Online Communities),[35] SKOS (Simple Knowledge Organization System),[36] Provenance Vocabulary,[37] and Terms for Describing People.[38]

Transforming EAC-CPF to RDF is a key task. To accomplish this, we will test the built-in feature of xEAC and learn from examples such as *Linking Lives*[39] and *Find & Connect*.[40] In addition, Silvia Mazzni and Francesca Ricci have done pioneering work in this area which we will examine and leverage.[41] As we create and accumulate RDF records, we will need to experiment with RDF triple stores, i.e. purpose-built databases for the storage and retrieval of triples, using the implementations and technical overview listed on Wikipedia,[42] such as Openlink Virtuoso.[43] As more information is brought into our triple store of choice, we anticipate an increasing need to curate the information. Maintaining metadata (or descriptions) is an ongoing process as other linked data is assimilated into our own. A data syncing schedule will be determined when our end product is published on the Web.

32. "Dublin Core," Semantic Web, http://semanticweb.org/wiki/Dublin_Core (accessed May 21, 2014); "DCMI Home," Dublin Core Metadata Initiative (DCMI), http://dublincore.org/ (accessed May 21, 2014).

33. "The Friend of a Friend (FOAF) Project," W3C, http://www.foaf-project.org/ (accessed May 15, 2014).

34. *Linking Lives* ontology is available for download at http://data.archiveshub.ac.uk/def/ (accessed May 19, 2014).

35. SIOC Core Ontology Specification", W3C, http://www.w3.org/Submission/sioc-spec/ (accessed August 19, 2014).

36. "SKOS Simple Knowledge Organization System - Home Page," W3C, http://www.w3.org/2004/02/skos/ (accessed May 21, 2014).

37. "tRDF," SourceForge, http://trdf.sourceforge.net/index.shtml/ (accessed August 19, 2014); "Provenance Core Vocabulary Specifications," SourceForge, http://trdf.sourceforge.net/provenance/ns.html (accessed August 19, 2014).

38. "Terms for Describing People," W3C, http://www.w3.org/TR/vocab-people/ (accessed May 21, 2014).

39. "Linking Lives," Archives Hub, http://archiveshub.ac.uk/linkinglives/ (accessed May 15, 2014).

40. "Find & Connect," Australian Government, http://findandconnect.gov.au/ (accessed May 19, 2014).

41. Silvia Mazzini and Francesca Ricci, "EAC-CPF Vocabulary Specification 1.1," http://archivi.ibc.regione.emilia-romagna.it/ontology/reference_document/referencedocument.html (accessed July 31, 2014).

42. "Triplestore," Wikipedia, http://en.wikipedia.org/wiki/Triplestore (accessed May 21, 2014).

43. "Virtuoso Universal Server," OpenLink Software, http://virtuoso.openlinksw.com/ (accessed May 21, 2014); "RDF Triple Store FAQ," OpenLink Software, http://virtuoso.openlinksw.com/dataspace/doc/dav/wiki/Main/VOSRDFFAQ (accessed May 21, 2014).

According to *Linked Archival Metadata: A Guidebook*, "RDF is published in many different ways such as but not limited to: as triple store dumps, via content negotiation on the other side of actionable URIs, embedded in HTML files as RDFa, available as the result of SPARQL queries, etc."[44] In order to publish our RDF data and making it accessible on the Web, we will need to examine and grasp RDF serializations (or expressions), such as Turtle,[45] N3,[46] JSON-LD,[47] and RDFa,[48] and determine the best approach for accommodating the requirements of our end product. During this process, we will explore resources listed by W3C and linkeddata.org,[49] and utilize the RDF Translator.[50]

The primary goal of publishing our descriptions as LOD is to explore and implement new and innovative ways for users to access and use the CTA while seamlessly enhancing our knowledge services via the interchange and amalgamation of our data with others existing on the Web (e.g., a "push and pull" process). Essentially, this work can be considered "data modeling"—the process of creating, defining, analyzing, and constructing information "blocks" to support specific purposes within a defined scope and context. We plan to evaluate our source material, digitize if necessary, and provide access to digital objects such as images, documents, and audiovisual material. We will use <resourceRelation> tags within individual EAC-CPF records to link to digital CTA content available through UCIspace @ the Libraries and EAD finding aids available through the OAC.

Conclusion and Next Steps

Our experiment with EAC-CPF and LOD is still in its early stages. The project team has yet to implement xEAC and create a corpus of robust EAC-CPF records, tasks that are critical to building a sustainable local workflow. We are continuing our partnership with the CDL to utilize the existing and in-development functionalities of SNAC as we move forward. For example, we plan to use the SNAC prototype to view our records in an end-user interface and complete further testing of our preliminary

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44. Morgan and LiAM, 55.

45. "RDF 1.1. Turtle," W3C, http://www.w3.org/TR/turtle/ (accessed May 21, 2014).

46. Ibid.; "Notation3 (N3): A Readable RDF Syntax," W3C, http://www.w3.org/TeamSubmission/n3/ (accessed May 21, 2014).

47. "JSON for Linked Data," W3C, http://json-ld.org/ (accessed May 21, 2014).

48. "RDFa 1.1 Primer - Second Edition," W3C, http://www.w3.org/TR/xhtml-rdfa-primer/ (accessed May 21, 2014).

49. Ibid.; "Linked Data Browsers, Mashups, and Other Client Applications," W3C, http://www.w3.org/wiki/TaskForces/CommunityProjects/LinkingOpenData/SemWebClients (accessed May 21, 2014); "Tools," Linked Data, http://linkeddata.org/tools (accessed May 21, 2014).

50. Alex Stolz, "RDF Translator," http://rdf-translator.appspot.com/ (accessed May 15, 2014).

description scenarios. We may also pursue SNAC as a viable public interface for our end product, which was the tool selected for the Harvard/Yale project.[51]

Creating a useable resource for our CTA users is at the heart of this experiment, and soliciting user feedback is the best way to ensure optimum service. Once we are able to visually demonstrate the concept of a CTA authority file in an end-user interface, we plan to conduct focus groups and individual interviews with graduate student and faculty contacts at UCI and beyond. We are interested in hearing their assessments of our prototype and learning about any additional information and functionalities they would like to see in the end product.

While the scope of our pilot project is the creation of a local authority file for a specific collection, we anticipate that our records will ultimately be part of a shared national resource. We are aware that a project is underway to develop a National Archival Authority Cooperative (NAAC) and are eager to contribute to the success of this endeavor.[52] In testing the utility of EAC-CPF on a small scale, we hope our experiment will add to the conversation about NAAC requirements, and demonstrate how repositories with specialized audiences can participate in a national cooperative. We have been in close communication with the CDL, a NAAC partner, regarding user experience design and governance requirements for a shared authority file, and plan to further participate in the development of a model that supports both general and specialized authority data as our project progresses.

This project is the first of its kind at the UCI Libraries and will pave the way for exposure of other unique and valuable collections of interest to users worldwide. Through collaboration, the project team is learning and exploring together new, useful, and effective approaches of delivering archival information as linked data, building blocks of a more intelligent Web.

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51. Harvard Library Lab, "Connecting the Dots: Using EAC-CPF to Reunite Samuel Johnson and His Circle (Fall 2011-Fall 2012 Final Report), https://osc.hul.harvard.edu/sites/default/files/311_Connecting %20the%20Dots.pdf (accessed August 6, 2014).

52. Daniel Pitti, "National Archival Authorities Infrastructure: Social Networks and Archival Context & National Archival Authorities Cooperative," (presentation part of the Cornell University Metadata Working Group Forum, April 20, 2012), http://ecommons.library.cornell.edu/handle/1813/28718 (accessed August 19, 2014); "Session 307: Mapping the Course for a National Archival Authorities Cooperative," (session part of the 2013 joint annual meeting of the Council of State Archivists and Society of American Archivists in New Orleans, LA, August 16, 2013), http://saa.archivists.org/4DCGI/ events/eventdetail.html?Action=Events_Detail&&InvID_W=2754 (accessed August 19, 2014). Download recording of session for fee available at https://conventionrecordings.com/product/2013-august-11-17-saa-society-of-american-archivists-conference/307-mapping-the-course-for-a-national-archival-authorities-cooperative/.

Appendix A. Minimal Test Record for Jacques Derrida[53]

```xml
<?xml version="1.0" encoding="utf-8"?>
<eac-cpf xmlns="urn:isbn:1-931666-33-4" xmlns:xlink="http://www.w3.org/1999/xlink">
    <control>
        <recordId>Derrida_test</recordId>
        <otherRecordId>http://viaf.org/viaf/88958529</otherRecordId>
        <maintenanceAgency>
            <agencyName>UCI Special Collections &amp; Archives
            </agencyName>
        </maintenanceAgency>
        <maintenanceHistory>
            <maintenanceEvent>
                <eventType>created</eventType>
                <eventDateTime standardDateTime="2014-04-24T21:17:15.91Z"/>
                <agentType>human</agentType>
                <agent>Sara Seltzer</agent>
            </maintenanceEvent>
            <maintenanceStatus>revised</maintenanceStatus>
            <publicationStatus>approved</publicationStatus>
        </maintenanceHistory>
        <conventionDeclaration>
            <abbreviation>naf</abbreviation>
            <citation>Library of Congress Name Authority File</citation>
        </conventionDeclaration>
        <conventionDeclaration>
            <abbreviation>aat</abbreviation>
            <citation>Art &amp; Architecture Thesaurus</citation>
        </conventionDeclaration>
        <conventionDeclaration>
            <abbreviation>lcsh</abbreviation>
            <citation>Library of Congress Subject Headings</citation>
```

53. This record is an abbreviated version of the minimal record exported from xEAC. Only data essential to the demonstrative purpose of the record were retained; data imported from VIAF and DBpedia, as well as additional entries within the <control> tag, were removed to improve readability. Preliminary description scenarios in the <occupations> and <places> tags yielded valid XML encoding but have yet to be rendered in a public interface. Linked data URIs are included in @vocabularySource attributes.

```
            </conventionDeclaration>
            <sources>
                <source xlink:type="simple" xlink:href="http://viaf.org/
                viaf/88958529"/>
                <source xlink:type="simple" xlink:href="http://dbpedia.org/resource/
                Jacques_Derrida"/>
            </sources>
    </control>
    <cpfDescription>
        <identity>
            <entityType>person</entityType>
            <nameEntry>
                <part>Derrida, Jacques</part>
                <authorizedForm>naf</authorizedForm>
            </nameEntry>
        </identity>
        <description>
            <existDates>
                <dateRange>
                    <fromDate standardDate="1930-07-15">July 15, 1930
                    </fromDate>
                    <toDate standardDate="2004-10-09">October 09, 2004
                    </toDate>
                </dateRange>
            </existDates>
            <biogHist>
                <p>Jacques Derrida was born in El-Biar, Algeria on July 15,
                1930… His publications appear with great frequency and are
                quickly translated into numerous languages. Prior to his death
                in 2004, Derrida lived in Ris Orangis, France (a suburb of Paris)
                and continues to teach at EHESS and UCI.</p>
            </biogHist>
            <occupations>
                <occupation>
                    <term vocabularySource="http://vocab.getty.edu/
                    aat/300025569">philosophers</term>
                </occupation>
                <occupation>
```

```
        <term vocabularySource="http://vocab.getty.edu/
        aat/300025522">literary critics</term>
    </occupation>
    <occupation>
        <term vocabularySource="http://vocab.getty.edu/
        aat/300154308">theorists</term>
    </occupation>
    <descriptiveNote>
        <p>Derrida's academic work can be broadly classified in
        these three categories. Positions held are described within
        Directors (administrators) and Professors (teachers).</p>
    </descriptiveNote>
</occupations>
<occupations>
    <occupation>
        <term vocabularySource="http://vocab.getty.edu/
        aat/300025431">directors (administrators)</term>
        <descriptiveNote>
            <p>Founder and Director, College International de
            Philosophie, 1983-2004.</p>
            <p>Directeur d'Etudes, Ecole des Hautes Etudes en
            Sciences Sociales, 1984-2004.</p>
            <p>Director of Studies in Philosophical Institution,
            Ecole des Hautes Etudes en Science Sociales, 1983-
            2004.</p>
        </descriptiveNote>
    </occupation>
</occupations>
<place>
    <placeRole>Education; Employment; Death</placeRole>
    <placeEntry vocabularySource="http://id.loc.gov/authorities/
    names/n79058874">Paris (France)</placeEntry>
    <dateSet>
        <dateRange>
            <fromDate standardDate="1949">1949</fromDate>
            <toDate standardDate="1956">1956</toDate>
        </dateRange>
        <dateRange>
            <fromDate standardDate="1960">1960</fromDate>
            <toDate standardDate="2004">2004</toDate>
```

```
                    </dateRange>
                </dateSet>
                <descriptiveNote>
                    <p>Attended school at Lycee Louis-le-Grand, 1949-1952.
                    </p>
                    <p>Attended school at Ecole Normale Superieure, 1952-
                    1956, served as maître-assistant professor, 1964-1984.
                    </p>
                    <p>Taught at the Universite de Paris III (the Sorbonne),
                    1960-1964.</p>
                    <p>Helped found the College international de Philosophie,
                    1983.</p>
                    <p>Taught at the Ecole des Hautes Etudes en Sciences
                    Sociales, 1983-2004.</p>
                    <p>Died in a Paris hospital October 8, 2004.</p>
                </descriptiveNote>
            </place>
        </description>
        <relations>
            <cpfRelation xlink:type="simple" xlink:href="De Man_test">
                <dateSet>
                    <dateRange>
                        <fromDate standardDate="1966">1966</fromDate>
                        <toDate standardDate="1983">1983</toDate>
                    </dateRange>
                    <dateRange>
                        <fromDate standardDate="1987">1987</fromDate>
                        <toDate standardDate="1989">1989</toDate>
                    </dateRange>
                </dateSet>
                <relationEntry>De Man, Paul</relationEntry>
                <descriptiveNote>
                    <p>Colleague at Yale University. De Man and Derrida
                    were members of the disputed "Yale School" of criticism.
                    Derrida was influenced by his work, and defended De Man
                    in 1987 when it was discovered De Man had written anti-
                    Semitic articles in Pro-Nazi publications during World War
                    II.</p>
                </descriptiveNote>
            </cpfRelation>
```

```
            <cpfRelation xlink:type="simple" xlink:href="Krieger_test">
                <dateRange>
                    <fromDate standardDate="1986">1986</fromDate>
                    <toDate standardDate="2000">2000</toDate>
                </dateRange>
                <relationEntry>Krieger, Murray, 1923</relationEntry>
                <descriptiveNote>
                    <p>Colleague at the University of California Irvine.
                    Instrumental in bringing Derrida and other high ranking
                    literary critics to Irvine. Corresponded with Derrida.</p>
                </descriptiveNote>
            </cpfRelation>
        </relations>
    </cpfDescription>
</eac-cpf>
```