

Project Addendum

A. *Spartan Archive* Project

The University Archives and Historical Collections (UAHC) of Michigan State University greatly appreciates the opportunity to respond to the peer reviewers' comments and the Commission's questions. As described in the project narrative, UAHC hopes to develop a governance structure and technical infrastructure to accession, provide access, and preserve electronic records in the university environment through the *Spartan Archive* project. The goal of the *Spartan Archive* project is a foundation for an electronic records archival solution which includes systems, policies and processes.

The *Spartan Archive* project model is based on the principles of best practices and emerging standards and intends to use the OAIS model as a conceptual framework, as opposed to a prescriptive design map. Development of the program is intended as a proof-of-concept model with practical, real-life solutions to answer a need faced by most U.S. higher education institutions. As one reviewer commented, "building an OAIS system is a multi-million [dollar] project" and almost always outside the financial reach of academic institutions. The goal of the *Spartan Archive* project is to find an economical, scalable solution that will allow Michigan State University (MSU) and other colleges and universities to begin incremental progress towards the long-term goals of electronic records management and digital preservation.

B. Designated Communities

Several reviewers identified a weakness in the *Spartan Archive* proposal as the lack of a significant "feedback loop" with UAHC's designated communities. As the official repository of Michigan State University's permanent records, the UAHC's designated community is the entire University, including its administration, faculty, staff and students. In addition, UAHC serves the larger communities of scholars, researchers, public and local historians; publishers and producers; K-12 students, teachers, genealogists, and the general public.

In the *Spartan Archive* project proposal, UAHC is focusing on three vital records services created by the Registrar's Office. In the project narrative, UAHC stated that collaboration is "a major component of UAHC's vision for electronic records management at MSU." Collaboration is addressed in the original proposal by including key units - the University Archives, Academic Technology Services, Administrative Information Services, the Enterprise Business Systems Projects team and the records creator, the Registrar's Office - in the project team.

However, as the reviewers correctly pointed out, UAHC must actively engage with the records creator and user communities in all steps of the process – appraisal of the records, defining access expectations, identifying preservation metadata and testing user interfaces. For the *Spartan Archive* project, UAHC intends to focus on the MSU community of administration, faculty, staff, students and alumni. If awarded the grant, UAHC would revise the project's plan of work to reflect a more structured interaction with key stakeholders on the preservation and access to the Academic Programs, Course Descriptions and Student Directory. Opportunities for engagement would begin in phase one of the project and include a survey of user needs and expectations, scheduled interviews with key University administrative units, and formal testing cycles of user interface prototypes.

At least one reviewer noted that, in order for the *Spartan Archive* project to provide a model for other academic institutions, the proposal could strengthen the role of the CIC-University Archivists Group. UAHC staff is interested in increasing the role of the higher education community in the work plan. While the CIC is not representative of all universities and colleges, the Big Ten Universities are

a good sampling of large, public research universities. If the *Spartan Archive* proposal is funded, UAHC staff could revise the plan of work to include quarterly reviews of the project's progress by the CIC-UAG using the group's listserv to solicit feedback and input.

C. Archival Management Software

Several reviewers expressed concern about the ambitious scale of the *Spartan Archive* project proposal and suggested refining the scope of work. Other reviewers commented on UAHC's desire to implement archival management software and IRODS in the same project. In this area, UAHC is able to offer further explanation, a progress update and a revision to the plan of the work.

In the 2009 CLIR report, "Archival Management Software," Lisa Spiro defined archival management systems as "a kind of software that typically provides integrated support for the archival workflow, including appraisal, accessioning, description, arrangement, publication of finding aids, collection management, and preservation." In her report, Spiro identified key functional requirements and reviewed ten software systems against these requirements. In July of 2009, UAHC staff participated in a Society of American Archivist webinar led by Lisa Spiro that included a demonstration of several open source and commercial archival management systems.

Tellingly, the UAHC's current archival management system, MicroMARC, is not on the list of products reviewed by Spiro. MicroMARC is a DOS based system created in 1984 by the former director of UAHC, Dr. Frederick Honhart. Of the seventy-four institutions that implemented MicroMARC, the UAHC is one of the few remaining users of the system. UAHC has two main instances of the system – one to manage *all* material transferred to the custody of UAHC (both material scheduled for destruction and archival material) and one to manage the processed, archival collections with permanent retention status. It is imperative that UAHC upgrades both its archival management software and migrates the collection data from MicroMARC to the new system before it can address electronic records.

Given the critical need to replace MicroMARC, the selection and implementation of a new archival management system began immediately after the new UAHC director started in 2008. Since the original *Spartan Archive* proposal was submitted, UAHC has received funding from the Vice Provost of Libraries, Computing and Technology to replace the system and migrate the collection data. Requirements for the new system were created based on Spiro's CLIR Report and the University is scheduled to release Requests for Proposals (RFP) in October 2009. Both open source and commercial solutions will be considered in the review process and the new system is on track for implementation in early 2010.

With this progress underway, the evaluation and implementation of a new archival management system can be removed from the *Spartan Archive* project scope and plan of work. The Project Technologist will still integrate the archival management software with the proposed *Spartan Archive* framework in the Archival Administration layer of the design. However, the data migration and implementation of a new archival management system will occur outside the scope of the project and hopefully, before the *Spartan Archive* project gets started in early 2010.

D. Data and Metadata

The reviewers and the Commission noted that UAHC staff should explain in more detail the appraisal process for data element selection and metadata standards. Once underway, the *Spartan Archive* project will assist UAHC staff in the development of appraisal guidelines and metadata standards for higher education institutions' administrative electronic records. At this point, UAHC staff plans to

ingest the data elements that, in the words of one reviewer, “were listed in the SQL queries used to generate the respective reports.” However, part of the appraisal process will include a full survey of the records creator’s databases, and a needs assessment of the designated communities. For example, interviews with faculty and staff may identify that the ability to generate “authentic copies” of the Course Descriptions is highly desired and that PDF versions of the publication should be archived in addition to the data elements that generated the reports. One outcome of the *Spartan Archive* project will be a better understanding of the appraisal process for electronic records and an appraisal workflow that can be used in the analysis of other university administrative record series.

In the area of metadata, UAHC plans to build on current best practices and then add elements that are applicable to the academic environment. The metadata will be based on Dublin Core and extensible to the specific needs of our designated community. Since the proposal was submitted, UAHC staff has learned of the Minnesota Recordkeeping Metadata Standard (IRM 20) which consists of twenty elements, ten of which are mandatory. The standard is described as sharing “many of its elements with other metadata standards, such as the Dublin Core and the Minnesota Geographic Metadata Guidelines set, but goes further to address such issues as access restrictions, data practices, and records retention and disposition, thereby enabling the practical implementation of statutory mandates for records management.”¹ MSU is interested in developing similar institutional metadata standards for descriptive, preservation and recordkeeping. As mentioned above, UAHC plans to provide an opportunity for the designated community to define the preservation metadata (PDI) and help “ensure the Content Information is adequately understandable”² and includes reference, context, provenance and fixity information. The lessons learned during the *Spartan Archive* project will help shape metadata standards for the whole institution.

E. Dark Archive

The use of the term “Dark Archive” was noted by several reviewers and the Commission. In the *Spartan Archives* project proposal, the development of a Dark Archive is one component of the overall program. The term is used to distinguish a restricted access preservation environment for copies of “live” records stored and accessible in other areas of the *Spartan Archive* system. A “dark archives” is referred to in section “B6. Access Management” of the *Trustworthy Repositories Audit & Certification: Criteria and Checklist* and defined as “a collection of materials preserved for future use but with no current access” by Richard Pearce-Moses in *A Glossary of Archival and Records Terminology*. In the *Spartan Archive* project proposal, the Dark Archive is an offline repository, accessible only to select archivists and IT administrators and will be used for checksum validation and disaster recovery. iRODS software will be used to manage the Dark Archives portion of the *Spartan Archive* project.

F. Technical Infrastructure

Both the Commission and reviewers asked for explanation of the technical infrastructure proposed by MSU in the *Spartan Archive* project proposal. MSU, like most major research universities, is in the process of converting traditional standalone server installations to a virtualized server environment. The impetus to convert is manifold – economies of scale, increased reliability, improved flexibility, decreased security risks, ease of hardware and software migration, energy efficiencies and risk

¹ <http://www.mnhs.org/preserve/records/metadastandard.html>

² *Trustworthy Repositories Audit & Certification: Criteria and Checklist*, Version 1.0, February 2007.

mitigation. Many of these reasons are also important concerns for archivists, such as security, reliability, migration, and the virtual server environment is rapidly becoming a best practice for the IT profession. UAHC did do a cost comparison for the purchase and support of three quality server “boxes” devoted to the *Spartan Archives* project and the cost was comparable. In addition, MSU’s IT professionals argued convincingly against purchasing standalone servers to preserve vital, permanent business records and then retaining those servers for use as an electronic archive past the IT industry’s recommendation of a 3-4 year lifespan.

The proposed technical infrastructure for the *Spartan Archive* project will be sustainable for UAHC. The three project servers – database, web and batch production – and all maintenance, upgrades and nightly backups, are built into the annual cost. (See the Budget Narrative Addendum for new information on the pricing model and a detailed cost explanation.) A significant outcome of the *Spartan Archive* project will be a proven model for archiving the institution’s administrative electronic records with an accurate price point that can be scaled appropriately as more records are added. This information will allow UAHC and the larger unit of Libraries, Computing and Technology to request the necessary funds to preserve and manage electronic records from the University’s operating budget.

G. Evaluation

The Commission has asked how UAHC proposes to use the *Trustworthy Repositories Audit & Certification: Criteria and Checklist* in the *Spartan Archive* project. The intent of UAHC is to utilize TRAC “outside of the carefully prescriptive world of certified repositories” as explained by the co-chairs, Robin L. Dale and Bruce Ambacher, of the RLG-NARA Digital Repository Certification Task Force. On the onset of the project, the TRAC criteria was used in the planning of the *Spartan Archive* proposal, and would continue to shape the “working practices” and design of the digital archive. As the authors’ of TRAC note in the “Intended Audience” subsection of the Introduction, the criteria and checklist can help “reassure” an organization that is planning a repository that “it is operating in accordance with recognized best practice” and that it is focusing “limited resources where they will best ensure that digital resources will survive.”³

In this case, subsets of the TRAC criteria apply to different elements of the *Spartan Archive* project. For example, *subset A. Organizational Infrastructure*, will be used to evaluate the *Spartan Archive* project as a whole and identify gaps in the program such as governance structure, policies, procedures, staff expertise or operational support. The TRAC criteria’s *Subset B. Digital Object Management* is directly applicable to the workflow of the *Spartan Archive* project and will allow the project team to audit the various components of the complex system. Analysis of *Spartan Archive* in comparison to *subset C. Technologies, Technical Infrastructure & Security* will ensure the project team is creating a secure and trusted technical infrastructure to archive the institution’s electronic business records. The overall intent of using the TRAC criteria and checklist as an evaluation tool is twofold – 1) to allow the project team to identify weaknesses and plan ahead to address gaps and 2) to utilize an established standard to assess the project and communicate its successes and challenges to the larger archival community.

Thank you for the insightful feedback and comments and for the opportunity to respond.

³ Trustworthy Repositories Audit & Certification: Criteria and Checklist, Version 1.0, February 2007.