Looking Forward to Preservation

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King Abdullah University of Science and Technology (KAUST), located on the Red Sea coast one-hour north of Jeddah, Saudi Arabia, was founded in 2009 as an initiative of the Saudi king (and university namesake). The 36 square kilometer campus, which includes a new town and amenities to accomodate the university personnel and students, are a marvel of execution, having been designed and built in just three short years. The result is a gleaming, modern facility designed to nurture developments that will contribute to a better future for the people of Saudi Arabia.

Focused exclusively on graduate education and research, KAUST's aim is to create economic opportunity by advancing scientific and technological research in four broad areas: Water, Food, Energy and Environment. To accomplish this, the university has brought together leading faculty, post-docs, staff, and graduate students from throughout the world and given them access to state-of-the-art labs and excellent funding.

As a new institution with a new library and no legacy collections, preservation priorities have naturally been framed with a forward-looking perspective. They are viewed as part of a long-term program of knowledge management in which the University Library and the institution's highly centralized Information Technology department play leading and collaborative roles.

Our early efforts have focused on building two key foundations:

1. Research Outputs

We believe that marshaling and maintaining KAUST research outputs in a digital repository will leverage the value of the institution's research investment by:

- Providing persistent access to university intellectual assets, including gray literature (e.g., technical reports, conference papers, etc.) and research data, in order to document and share new knowledge created at KAUST.

- Expanding citation of KAUST research, which contributes to increased awareness of and growing prestige for our new and ambitious university.

- Showcasing the intellectual product of KAUST researchers, which supports graduate student and post-doc recruitment and development of international research networks and collaborations.

Although planning for the institutional repository was initiated by library staff within weeks of the university's opening, implementation began only after a variety of underlying technologies and processes at the university were stabilized. During this build-up period, the library and IT teams evaluated a number of issues (e.g., technology selection, hosting strategy, depositor authentication) and recruited and trained staff for the program.

A decision was made to adopt the DSpace platform because it allowed us to get a fast start and ensured flexibility to move to other technologies when/if warranted in the future. We also decided to host in "the cloud", selecting a UK vendor in a competitive bidding process. By doing so, we avoided using precious internal IT resources and also accelerated our start.

For the better part of a year, we operated the repository in a pilot phase, during which we worked with a limited selection of depositors and file types. This provided valuable experience in working through questions relating to keyword indexes, workflow, item formats, authority control, and copyright.

Our initial collection in the archive was student theses. In the months before the institution's first theses were approved, we successfully worked to implement a university policy that called for submission of a digital copy of thesis and dissertations to the library (and conveyance of a usage license) as a condition of graduation. Working with this uniform body of documents in a controlled environment proved to be a useful and confidence-building training exercise in preparation for formal launch of the archiving service. At the same time, we began working with several early adopters from the faculty to get a broader understanding of the challenges as we moved to a more diverse environment.

In September 2012 we formally launched the KAUST Digital Archive. The emphasis of our current work focuses on expanding internal awareness of the archiving service and working individually with KAUST faculty members to set up and begin populating their collections. The repository staff works closely with the library subject specialists to identify opportunities and develop relationships with the faculty. While we anticipate that researchers will often be indifferent to adopting preservation practices or to taking on the effort of depositing their works, we believe that a simplified deposit workflow will make the case easier to make and that availability in DSpace of statistical reports on viewing and downloading will provide a compelling illustration of the benefits.

As we look beyond current efforts to expand voluntary archiving and gain hands-on experience, we have begun to focus on several related knowledge management initiatives. These include: building up an educational program for faculty on management of their copyrights; encouraging the adoption of institutional policies on preservation of research; evaluating the kinds of services we might develop to leverage the value of the archive; and developing a program of research data management.

2. Institutional Records

Like most institutions, KAUST creates a flood of administrative records in both digital and paper form. The University Records Policy, issued in spring 2011, aims to "ensure the creation and management of authentic, reliable, complete and readily accessible records, capable of supporting the University's operations for as long as those records are required." Responsibility for the policy is jointly vested in the Chief Information Officer and the Librarian.

At this early stage, we are working department-by-department to build a registry that identifies the location, custodian, format, retention period, and other key facts about each key records series. This process involves completion by each unit of a survey and subsequent interviews with library staff to refine the information. In addition to taking the lead in developing the registry, the library offers a secure compact storage facility which is being used by several university units to store and control access to physical archives. A University Archivist will soon be added to the library staff to oversee the records management program and also organize a program to capture and organize records of KAUST's history.

In addition to cooperating with the library on development of a records registry, KAUST IT is working with various units to develop digital storage and preservation plans for various records categories. Already in use is a substantial archive of architectural and engineering records of the university's physical plant. A wide range of digital records from the early stages of KAUST's inception, now housed on an orphan system will be moved into the mainstream of the digital preservation program.

In many ways, it would seem that implementing a digital archiving program at a new university would be far simpler than at a long established or less centralized institution. But while others may face far more daunting challenges of scale and diversity, at KAUST our key challenge seems to be an environment that is fast evolving. Every system is new, every process immature. Nevertheless, by rigorously prioritizing our efforts, carefully building and adapting processes, and making a strategic commitment to staff training and development, we believe we are building a program that already has begun to deliver value to our young university.