

# UC Information Technology Leadership Council UC Berkeley Report January 2008

(Revised 02/01/2008)

## October 2007 – January 2008 Office of the CIO and Information Services and Technology (IST) Accomplishments

### Advancing OpenCollection Project Funded by the Andrew W. Mellon Foundation

With consortium partners at the Museum of the Moving Image (New York) and the University of Toronto, IST–Data Services was awarded a major grant from the Andrew W. Mellon Foundation to develop a community-source and services-based collections management system for higher education and the broad museum community. The 28-month collaborative effort will begin with a series of community design workshops that will produce a service-oriented architecture (SOA) blueprint for extending OpenCollection, the open source application that is the basis for this project. Within UC Berkeley, IST–Data Services will lead an effort that will involve the Phoebe A. Hearst Museum of Anthropology, the Berkeley Natural History Museums consortium, other units in IST, and other campus museums and collections. The total amount funded by Mellon is approximately \$2.4M with UC Berkeley receiving approximately \$440K.

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### AppScan

The IST–Web Applications unit has successfully partnered with Security and Network Services (SNS) to initiate a program to perform regular application vulnerability assessments. This has led to the completion of major remediation work and developer education within our IT organization. The program uses the campus Restricted Data Management program to identify applications that contain restricted data for prioritization of scans. In addition, developers in the Web Applications unit are beginning to use the scanning technology to identify vulnerabilities during the software development lifecycle, to establish greater awareness of threat vectors and as a training tool. While scanning is not a silver bullet, the approach used has led to the reduction of the most exploited vulnerabilities for our production systems, and a significant increase in secure coding practices.

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### Bridges to Health (B2H).

The Technology Account Management (TAM) group worked with Recreational Sports and IST Database and Windows service providers to provide a database and web-hosting environment in the campus data center for the Bridges to Health project. IST broke new ground in creating this environment, which supports presentation of branded interfaces to UC Berkeley, UCLA, and UC Davis for access to a single SQL instance. The B2H project, aiming to replace multiple obsolete systems, is designed and managed by a cross-functional team with representatives

from UC Berkeley, UCLA, and UC Davis. An outside vendor, Pyramedium, has been contracted for coding services.

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### **Co-location services**

The Technology Account Management (TAM) group responded to an urgent request for co-location services from the School of Information (iSchool). In late November 2007, the iSchool's Computing & Information Services Department was informed it had to move their servers out of South Hall, the building that houses the iSchool, before the beginning of the spring 2008 semester in early January. The iSchool had less than six weeks to relocate 15 servers to the campus data center, and install 18 network connections, 24 IP addresses, and a subnet. In addition, in order for the new network setup to work, an upgrade to the router interface for South Hall was necessary. IST–Network Services had the network installations ready before the holiday break in late December. On Saturday, January 5, an IST-coordinated effort with the iSchool team resulted in a smooth, successful co-location move for the iSchool Computing & Information Services Department.

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### **Kuali Student Service System**

The Kuali team completed their Phase 1 Technical Architecture deliverable, January 7, 2008. The Kuali Student project is committed to a service-oriented architecture (SOA) built entirely on an open-source web service technology stack. The investigation evaluated and chose core web service technologies. All technologies were downloaded and tested, and these tests were used to determine product capabilities (which often differed from the capabilities published on the Web) and to get a solid sense of the performance of the products.

Summary of current choices:

1. Portal: uPortal (v2.6.1)
2. Database: Derby (v10.3)
3. Rules engine: Drools (v4.0)
4. Web service engine: CXF (v2.0.2) or Metro (v1.0<sub>FCS</sub>)
5. Web Container: Tomcat (v6.x)
6. BPEL engine: Open BPEL (from Sun)
7. ESB: Apache ServiceMix (v3.2.1)
8. Workflow: Kuali Enterprise Workflow

The products that were selected have been bundled into a simple proof-of-concept application, which will be available for download in the near future. Stay tuned for Phase 2. We hope to do a full implementation of a security framework, and the selection and implementation of development frameworks (UI MVC framework, ORM framework, build framework).

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## **Mailman Migration of CalMail Mailing Lists**

The CalMail team migrated 21,288 lists, with more than one million subscribers, from a legacy Majordomo and Simple List system to a highly available, redundant Mailman system. The legacy system ran on a single server; the new Mailman system has three new backend servers dedicated to processing mail, and our existing webmail servers are handling the "Manage Your Mailing Lists" functionality. The Mailman system has far more capacity than our legacy system and mail delivery times from lists have been significantly improved. The CalMail team migrated many of the settings from Majordomo to Mailman, so the majority of mailing lists work in the same manner as they did before the migration. Many new features are available in our Mailman installation.

Documentation is available at <https://calmail.berkeley.edu/docs/mailman/>.

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## **OKAPI: Remixing Çatalhöyük Wins Open Archaeology Prize**

The Open Knowledge and the Public Interest (OKAPI) project helps UC Berkeley scholars share knowledge and resources and build community with teachers and learners around the world. The OKAPI Remixing Çatalhöyük website was recently awarded the Open Archaeology Prize by the American Schools of Oriental Research for "best open-access, open-licensed, digital contribution to Near Eastern Archaeology." Launched in October 2007, this research archive and multimedia exhibition features the investigations and data of Berkeley archaeologists at Çatalhöyük and their colleagues at the Neolithic tell settlement of Çatalhöyük, Turkey. The aim of the website, accessible in English and Turkish, is to engage the public in the exploration of primary research data.

To visit the Remixing Çatalhöyük website, go to <http://okapi.berkeley.edu/remixing/>.

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## **Sybase Database Retirement**

Working with the Web Applications and Unix System Administration teams, the Database Services unit has retired IST support of the Sybase databases and their associated servers. The Campus Deposit System (CDS), System Access Request Application (SARA), CalMessages, Legacy IST Billing, Homepage Search, Calendar of Events, CalNet, and Chart of Account Validation applications were migrated to one of the other supported database services: Oracle, MySQL, PostgreSQL, SQL Server, and DB2. This retirement paved the way for improved database operational efficiencies and many security advancements.

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