University of Kentucky and the Digital Library Services Department

We spoke with librarian Eric Weig, who has been director of digital library services at the University of Kentucky in Lexington, KY, since library digitization began there in 1998. Weig manages the University's Digital Library Services Department, which is part of the University Libraries' Information Technology Division. He also manages the Kentuckiana Digital Library, a state-funded project that puts online archival materials from libraries and archives around the state.

Weig's department's beta website, eris.uky.edu, is the precursor to a permanent upgrade of the Digital Library's website. Scheduled for re-launch in early 2012, the site, https://kdl.kyvl.org, will contain about 2 million images. Included will be 100,000 photographs and 600,000 pages from state newspapers, a major focus of Weig's department.

"We've got a little bit of everything," the librarian says, explaining that the Kentucky imprints listed on the site are actually rare texts. And while the Digital Library does include books digitized elsewhere, the Department itself avoids digitizing book texts, "mostly due to the whole Google thing going on," Weig says. (The reference is to the copyright-related lawsuit the Authors Guild has mounted against the University of Michigan-based HathiTrust digital library project.)

A significant point of Kentucky's digital collection is its online archive, dating back to the 1880s, of the *Daily Racing Form*, the central publication of horse racing—which of course is closely associated with the "bluegrass state." Among the Department's partnerships with libraries and archives, an important one is with the Keeneland Association, which owns a thoroughbred horse racing complex and sales facility in Lexington. "We did a pilot project, where we went to the entire archives, pulled out all the prominent horses, all the Kentucky Derby [winners], all the Belmonts, all the significant issues," Weig says. "So what we have online is roughly 200,000 images, but it represents the entire scope of the archives and has the best stuff."

The Department also is starting to digitize the University's archival collections; the 12 collections digitized to date amount to 30,000 images. "What we've done in that area is develop a workflow, for doing that in a 'mass digitization' way," Weig says. "So someone describing the materials doesn't need to do a lot of work with the person that's doing the scanning of the materials."

Another focal point is oral history; the University has the Louis B. Nunn Oral History Center, a collection of 8,000 interviews, some video, some audio only. The Digital Library Services Department has frequently collaborated with the Nunn Center. Robert Penn Warren's interviews with prominent African Americans in the 1960s for his book *Who Speaks to the Negro* are included; they include dialogues with such luminaries as Malcolm X, the Rev. Martin Luther King Jr., and James Baldwin.

"Combat to Kentucky" is another, more recent oral history project in high definition video, which includes interviews with returning veterans from Afghanistan and Iraq.

Finally, the Department is starting to digitize its athletic archives; it's getting ready to load an extensive collection of audio of historic games that should prove a hit with Kentucky sports fans.

A Focus on Newspapers

The Department is a leader in newspaper digitization and partners with the Library of Congress and the National Endowment for the Humanities for the National Digital Newspaper Program. The Department is working with newspaper companies around the state to preserve their content—a mission that formerly concentrated on microfilming 150 papers. Today, the publishers are instead sending pdf files to be preserved.

"Newspapers are, beyond oral history, the most challenging thing to digitize," comments Weig. "They're big, they're falling apart, and their print is small. OCR has to be intelligent enough to recognize columns on the page, not just words." [Optical character recognition is the technical process that converts images into searchable text.]

"We took the lessons we learned from doing mass digitization of newspapers, and we're transferring those to other formats," Weig continues. "We're mass digitizing complete archival collections, where we take a process collection, go through each folder, and just digitize every single page or item in it. Then we've developed special loaders that work with the description of those objects in the images that were captured and rapidly loads them into the new system."

Also in the newspaper category: The Department has digitized the first newspaper ever published in the state, indeed the first newspaper published west of the Allegheny Mountains—the *Kentucky Gazette*, dating from 1787.

"We were in the first round of the national [NEH] grant and the only one of the six members that first got chosen," Weig proudly points out. "It was a test phase; we were helping to develop the [newspaper] standards with the Library of Congress—that [and we] didn't outsource anything. We did it all in-house because we knew how to duplicate our own microfilm, how to scan the film. So many people do regard us as the experts in that area."

Technology and Budgeting

Weig is the Department's only librarian; also on board are four programmers and two full-time imaging technicians who manage, respectively, microfilm to digital imaging work and scanning of original material. Temporary employees, some of whom are students, work with the technicians.

Cataloguing/metadata work is done by the archivist who sends in the material to be digitized. The University's Special Collections and Archives' archivists handle the UK work. The newspapers already have marked records contained in WorldCat, the global network of library content. Kentucky's programmers then re-format the records into a more modern metadata format.

Significantly, the programmers are working on the new version of the libraries' digital website now that the Department has developed its own content management system since switching

Northern Micrographics

We spoke with Tom Ringdahl, vice president of sales and marketing, who has been with Northern Micrographics for 21 years. The company started in 1947 as Microcard Corporation, offering a product similar to microfilm but one that used opaque cardstock. The company produced millions of these microcards for academic libraries, public libraries, and the government, and the product is still in existence but fast disappearing because its reading machines are no longer being manufactured and are being phased out. The original company— the first to produce microfiche in the United States--eventually was sold to NCR, while the founders created a new company, Northern Micrographics.

Northern Micrographics was and is active in microfilm, serving academic and commercial clients. But it added the digital arena to its services list in the late 1980s or early 1990s. In the mid-1990s Northern Micrographics got its first big digital break: Cornell University, which had started digitizing monographs at its Olin and Mann libraries, teamed with the University of Michigan on the Making of America, a large digitization project involving core historical literature from the archives of the two institutions.

Vendor Northern Micrographics won the bid for the project. "We ended up digitizing about seven thousand serials and serial monographs," Ringdahl recalls. "Things like *Harper's* monthly, *Scientific American*. A lot of farm-related, agricultural material." Interestingly, the sales manager says, the project involved both digital and print materials. "We ended up not only digitizing but printing facsimile copies of that material and sending them back to either Cornell or Michigan; they had them bound and were able to put it back on their circulation shelves. This stuff had been packed away in dark archives; it was sitting there basically destroying itself and falling apart."

'Having got our feet wet' in the digitization space with the Making of America project, Northern Micrographics continued marketing that service to academic libraries, public libraries, and government accounts. In the ensuing years, the company, which today employs 45, has worked with some of the biggest names: Ringdahl lists Yale, Princeton, the University of Illinois-Champaign, the universities of Minnesota, Chicago, and Pittsburgh and institutions within the

state university systems of Texas and California. Other clients have included historical societies and public libraries.

Facilities and Equipment

Production is always carried out at the Northern Micrographics facility, a 36,000-square-foot building housing a micrographics lab, a digitization area, and a large on-site archival vault that conforms to international standards for temperature, humidity and safety. All camera, film and digital masters are held there. "We have the ability to digitize anything from postcards through E-size engineering drawings," as well as bound or disbound material, Ringdahl says. "We can digitize microfilm in various formats: 16, 35, 105 mm. formats.

"The type of equipment runs across the [breadth of the] type of material you would expect to digitize, and that includes flatbed scanners, planetary scanners, feed-through scanners, rotary scanners, and various types of film scanners." The most expensive equipment pieces are the microfilm scanners and the large planetary scanners. Northern Micrographics has a range of equipment pieces from Zeutschel, Indus, Xerox, Epson, Fujitsu, and Hewlett-Packard, as well as home-built scanners.

In-House Vs. Outsourced Digitization

In general libraries have been comfortable sending their valuables go to Northern Micrographics, Ringdahl says. He can't remember any materials being lost, or any real damage occurring.

Why is the company a better bet for library digitization work than in-house resources? "It's cost-effective," Ringdahl says. Cornell, for instance, started out working on the Making of America project itself, using expensive Xerox equipment "and decided this was going to take them generations to accomplish, based on the volume of stuff they had. So they decided to outsource it" ("it" being 7,000 serials and serial monographs, each averaging 300 pages).

"We're a production facility, meaning we're used to dealing in high volume," Ringdahl continues. "A lot of the academic community have internal capability to do digitization, and I applaud their efforts. But at some point there gets to be economies of scale. A lot of academics