WEB OBJECTS TIME:

When Microsoft Started Speaking Like a Good Open-Standards Citizen, The Netscape Extensions Tail Tried To Wag The Dog and Object-Oriented Software Turned Static Web Pages Into Dynamically-Linked Access Boulevards To Significant Online Collection Databases

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"Are We There Yet," a panel considering the state of public access to online images databases, was proposed nearly a year ago. We all knew the answer to the proposed question at the time—yes and no. The bigger question was and is, does the software OS industry, the application vendors or the end user control the throttle of progress, and again, the answer regarding each of the players is yes and no.

The release of Windows'95 has finally provided the majority of users with a mostly usable desktop. At the same time, more powerful computer environments with considerable sophistication have become victims of the corporate scramble; they have lost "the battle for the desktop," and now need to find new strategies for survival, pitted against the near monopoly of the Gatesian Empire. Will this prove to be a detriment for all concerned? With Darwinian survival of the fittest influences viably engaged and the Department of Justice trying to play God and "do the right thing" in the computer marketplace, yes and no, unfortunately, has to again be the conclusive answer.

The California Historical Society initiated their digital imaging project in early 1992, with the assistance of a small pilot grant from the Durfee Foundation of California. Securing grant funds allowed a comprehensive evaluation of what would provide the near-computerless non-profit to launch a comprehensive collection development agenda.

Several programmatic decisions were obvious at the outset. The primary requirement was that the collection data developed would need to conform to non-proprietary, open-standards that would allow for an international exchange of data within several professional fields, including the research library and museum communities. Secondly, as an infrastructure, it was determined that a UNIX-based, client-server computer system with TCP/IP capability would be most effective. If the system had an approachable GUI interface, a wide range of staff, volunteers and interns could be productive with little training. The final selection of a deployable computer system was confirmed when a significant

bibliographic vendor, VTLS, was discovered as having a full multimedia-capable bibliographic database front-end for their USMARC OPAC on this particular platform.

Reasons for deploying client-server architecture were numerous: file security, ease of system administration, a connected but distributed environment, specialized workstations could be established which catered to specific functions, UNIX file distribution allowed a paradigm shift where a professional's files and applications followed the worker to whatever workstation she/he utilized in the workplace and more than anything else, the system had the robust capability of handling large numbers of sizable digital image files with ease.

As the infrastructure developed, a full compliment of peripherals were added to the system during the first several years. Three flat-bed scanners, one high-speed document scanner, CD-ROM drive, DAT drive for backup and a host of mono and color printers distributed throughout the workplace. A full range of software applications provided for every need of an enterprise-wide computerization effort. Superior software applications for image scanning has processed thousands of images into browsable online collections, effective Optical Character Recognition has turned descriptive guides and collection indexes into online databases and consistently formatted word processing documents can be used while processing collections to instantly instantiate a database of that information.

As the initial CHS pilot project had proved that the concept was enabling, the Irwin Foundation, also of California, provided valuable funds to expand the installed equipment base. Continued philanthropy from private foundations and corporations has provided both professional staff and the public to have significant access to the growing collection of online information via powerful workstations.

At a time when digital imaging projects were just getting underway, one of the key foundations in supporting the project provided an equally important infusion of funding which allowed for two visual image catalogers during a one year period. Acting in near pioneer fashion, two highly qualified bibliographic catalogers methodically established procedures for the cataloging of disparate materials into the Research Library Information Network (RLIN) database utilizing full USMARC format. From RLIN, the digital data files were cross loaded to the in-house OPAC, and by special arrangement, to the University of California's MELVYL database. Thus, an international community of researchers has access to the data, as well as a wide cross-section of the public.

During the period of time that the digital imaging project was underway, CHS was in the midst of a capital campaign and relocation to new headquarters. With careful planning, the entire new facility was wired to take full advantage of the computerization efforts. A twisted-pair ethernet network was put in place early in the construction project, allowing TCP/IP connections in most of the new exhibition galleries with the anticipation of online or interactive access to collections held as an integral element of future public outreach.

With the relocation to the South of Market Redevelopment Area in San Francisco, there were additional advantages. One of the most beneficial was the proximity to the business district and ISDN dataline access. CHS, once located in an area remote area of the city, is anticipating a significant presence with World Wide Web access. Without the communication infrastructure of a university campus and T-1 lines, ISDN offers an affordable foray into online information provision.

While CHS is very concerned with adhering to standards such as USMARC and SGML for universal access to its collection data, the Web has proved itself to be one of the most revolutionary and popular public access methods. Fortunately for the CHS, the company which provides the object-oriented technology base which forms the basis of the CHS computer infrastructure, recently announced software tools which will allow the integrated access of existing relational databases, through an "object" middleware layer, which will in turn dynamically link the information directly to the Web page access layer visible to the end-user. Where once static Web pages allowed only page after page of preformatted information, the Web Objects framework will bring live, robust and comprehensive information to the user with Web page simplicity.

This breakthrough technology will round out the methods for gaining access to the rich array of CHS collection information already available. Whether by direct subject query through the library style OPAC at the new facility, thumbnail browsing of the image collection on one of the workstations, or by dynamic Web query with accompanying information and image display, the information access revolution truly is in full swing.

The benefit to the professional staff managing the collections has increased performance many fold. Given the austere funding levels at most collecting institutions, the benefit gained by computerization provides a theoretical debate between two concepts: being more productive with a comprehensive toolset or being able to do the accomplish the same workload as overall staff diminishes. Both perceptions confirm that technology is pushing our lives further into the fast lane.

So are we there yet? Without doubt, but as technology rapidly evolves, there is no question that we are still in the very formative years. As software technology moves from proprietary formats to an arena of open-standards where software objects interact, messaging each other in a seamless and integral environments, passing digital information using methods as yet not conceived, only then will the end-user begin to enjoy truly robust online data access.

Rapid software evolution is providing Darwinian software innovations that will influence where the technology future leads. There are several methods by which software vendors will attempt to gain marketshare. Netscape Extensions can be viewed as a vendors attempt to provide innovations for a popular access medium. It can also be viewed as yet another method of instantiating proprietary jurisdiction, and therefore, marketshare. Will Netscape Extensions and their popular adoption ignore

the utility of the HTML Standards which makes the Web accessible to all, or will the HTML Standards evolve to include those features. Another recent innovation is the introduction of Java and a method of animating Web pages. If a special feature is programmed into the page and the Web viewer does not have the application required to activate the feature, an "app-lette" is downloaded to the end-user computer, which provides the mechanism for the feature to display. Java, rather than being a proprietary format, is a standard to which others can adhere when writing software applications. These differences raise the question, standard mandated by popular use, or standard instituted by a standards board? A long range vision is of absolute value.

Great access is now available, but the dreamy future remains reliant upon us, as collection management professionals, to help chart the course. By working towards comprehensive solutions and adhering to established information exchange standards that are non-proprietary in nature, we can continue to create a more ideal information future.