Asset Management Systems Tackle The Expanding Use of Metadata

By Patricia Evans

Metadata has become the buzzword *du jour* in asset management. Systems must be able to capture it, share it, store it and search it to be competitive. But working with metadata requires savvy that some companies are finding not all their employees have. The answer, say some vendors, is visual-search technology.

Metadata—the information associated with an asset—has become an increasingly hot topic in the asset and content management markets. Metadata is important not only because it provides search criteria for users when finding assets (file name, keywords, author, etc.), but because it also can store additional information about an asset (*e.g.*, digital rights information, previous usage, etc.). Early in any product demo, vendors are quick to point out their product's features for entering or capturing metadata. They take great pride in highlighting just how much metadata a user can enter, how customizable their system's metadata fields are, how easily the information is entered and how easily it can be searched.

Even that ultimate mass marketer, Adobe, has gotten the metadata religion. XMP, its eXtensible Metadata Platform, is an infrastructure designed to enable such applications as Illustrator and Photoshop to share metadata. *(See Vol. 1, No. 13, for a complete look at XMP.)* Currently, there is no standard method to ensure the metadata about a file created in one application will successfully be transferred intact to another application or system. XMP is designed to change that.

There were three asset management vendors at Seybold San Francisco displaying their early attempts at integrating XMP. They included Artesia, North Plains Systems and WebWare. Support of XMP is a trend we expect to see more of in the coming months as Adobe (and, Adobe hopes, other software vendors) begin to implement it in their applications.

Is a picture worth 1,000 words? But there was another trend among some of the asset management vendors we spoke with at Seybold San Francisco and it had everything to do with *avoiding* the use of metadata.

Image-content technology, or searching for images based on criteria such as color, texture or shape, has been around for years. But it has been an expensive technology and difficult to use, so it has not gained wide market acceptance. Long-time readers may recall that Dalim's Gallerie product had an image-recognition technology in it, and IBM had its own technology called Query By Image Content or QBIC. WebWare planned to integrate QBIC into Mambo in 1998, but never actually delivered it to any customers. *(See Vol. 9, No. 1, The Seybold Report on Desktop Publishing.)*

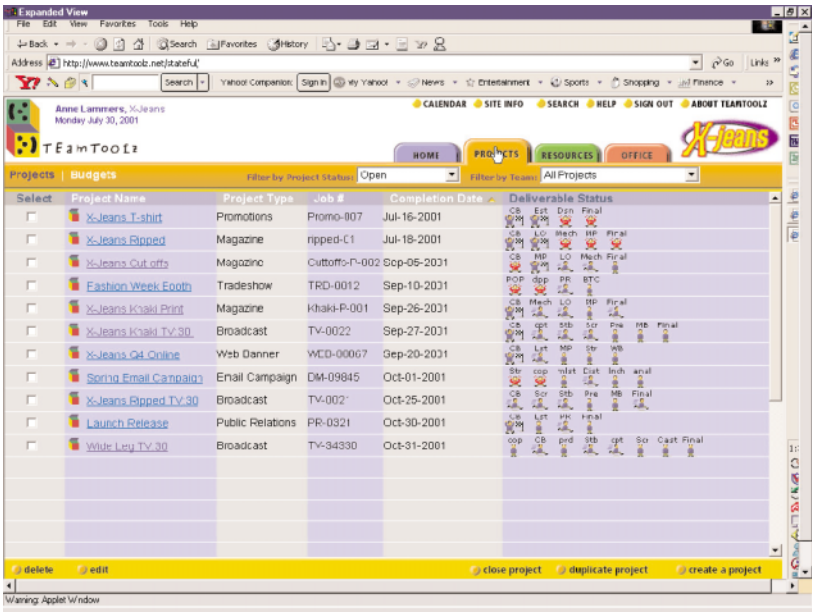
But this September, image-content searching found its way into two well-known asset management systems: Canto's Cumulus and North Plains Systems' TeleScope. Why has it finally made inroads? There are a number of reasons. First, the maturing PC industry has made it affordable to implement. Second, the technology itself has improved and become easier to use. Finally, and perhaps most importantly, there is an emerging need for it.

Companies with enterprise-wide asset repositories are finding that not all employees are proficient at using metadata for searching, and the prospect of telling a system to "find a photo like this" is much more appealing than playing keyword-search roulette. Keyword searching is also problematic for large corporations with multi-lingual offices. Finding a set of keywords that work for all users in all locations can be challenging. Searching for images with images overcomes the language barrier as well.

A happy mix? Does the maturation of image content technology threaten the use of metadata? We think not. Rather, we suspect they will happily coexist. After all, at their core, they are different things; image-content technology is a method of searching primarily video, image and, occasionally, audio files—not text files.

Metadata, on the other hand, can be used to locate all types of files. But metadata's equally important role is to provide information about the assets that have been retrieved. Even after finding an image using image-content technology, the user may still want to know the creator of the image, where it has been used before and what rights are associated with its usage. Only metadata can answer that.

Nifty as image-content systems are, the use of metadata is here to stay. The challenge now for companies is to train employees to use it effectively.



Tracking projects. Artesia's TeamToolz enables users to work collaboratively on projects. A list of projects is shown here; the icons represent various stages of completion.

In this roundup, we take a look at the early implementations of XMP from Artesia, North Plains Systems and WebWare. We also take a closer look at the image-content technologies being offered by Canto and North Plains Systems.

Artesia shows XMP, Mac version

Artesia Technologies, which counts HBO, Time Warner Trade Publishing and Random House among its list of customers, showed an early implementation of XMP in its Teams digital asset management system. In addition, the company is nearing release of its native Mac client for Teams and showed the latest fruits resulting from its acquisition of TeamToolz in August *(see The Bulletin, Vol. 6, No. 43)*.

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XMP. As of Seybold San Francisco, Artesia had not had a great deal of time to work on implementing Adobe's XMP platform into Teams. It had only recently received a beta version of InDesign 2.0 and Illustrator 10, the newest Adobe apps to support the metadata platform. It did, however, show Acrobat 5, which included XMP capabilities when it was released earlier this year.

The demo we saw showed the metadata of a file in Acrobat that was then opened in Teams with all of its metadata information intact. Artesia expects to work on more tightly integrating XMP into Teams, including automatically mapping fields from Adobe applications to Teams, etc.

Mac client. Artesia has spent nine months developing its native Mac client for Teams, which is slated to be released at the end of January.

The client is written in Java and is designed for OS9—although Artesia tells us it can easily be readied for OS X. It is targeted for graphic designers and publishers, which are predominantly Mac loyalists.

Features include tight integration with XPress, including drag-and-drop to and from XPress and thumbnail images of pages within an XPress document, making it easy to browse the entire document. Users can also view facing pages and nonstandard-size pages. One-click check-out of assets, drag-and-drop import and export of assets, and support for Apple scripting are also included. In addition, users can elect to hide the metadata when viewing an asset, to show all versions of an asset with the click of a button and to create "Projects," which enable users to gather all the assets involved in a job under one job jacket.

Pricing for the Mac client won't be announced until later in the fourth quarter, but it is expected to cost about 125 percent of the cost of the standard Teams Web client, which starts at $5K per named user.

Integration of TeamToolz. It was in August that Artesia announced it was buying TeamToolz, a small provider of brand-asset management services. TeamToolz has an ASP service designed to help marketing managers streamline the management of brands and product campaigns. The service created a central Web site for a campaign through which all those involved in producing the campaign could work collaboratively.

Artesia has now integrated the TeamToolz service into Teams, offering Teams users the ability to collaborate with and exchange assets among external partners. The integration adds the scheduling, budget tracking and distribution features Teams was previously lacking. Artesia's larger enterprise customers, who work with outside ad agencies and services, will appreciate those capabilities.

In the demo we saw, the integration looked quite good. Using TeamToolz, a project was created; tasks, participants and access controls assigned; deadlines set; and the status tracked. During the creation process, and also during subsequent reviews and approval rounds, Teams assets were retrieved by simply clicking on, for example, a thumbnail of an image.

TeamToolz is available now. Pricing begins at $100 per user per month.

Canto sees things differently with Idée

Canto added two options for Cumulus, its popular asset management system. The new options are the PDF AssetStore Module and the Espion Visual Search Option. It is the visual-search capability that we think should have the most impact.

Picture this. The Espion Visual Search Option was developed by Idée, Inc. Based in Toronto, Idée was founded two years ago and currently employs nine people. Idée's roots are in C++ programming, and it takes great pride in the fact that its Espion Visual Search technology is not packaged as a typical SDK

where developers must integrate the technology themselves. Rather, Idée integrates the technology into the application in question. Idée staff did all the integration work for Canto and will do so for other products as well, the Idée spokesperson we talked to said.

The Espion engine is available as an integrated client-server add-in for Cumulus 5.0 or as a standalone application. The client interface is written in Java and the Visual Comparison Engine server is written in C++. It supports Windows 2000, NT, Mac OS X, Linux, and Solaris 8. It will be packaged with both the Workgroup and Enterprise version of Cumulus 5.0. Introductory costs are $295 for the server and $75 for each client.

The integration into Cumulus is the first use of the technology in a commercial product. Cumulus users access the option via a pull-down menu.

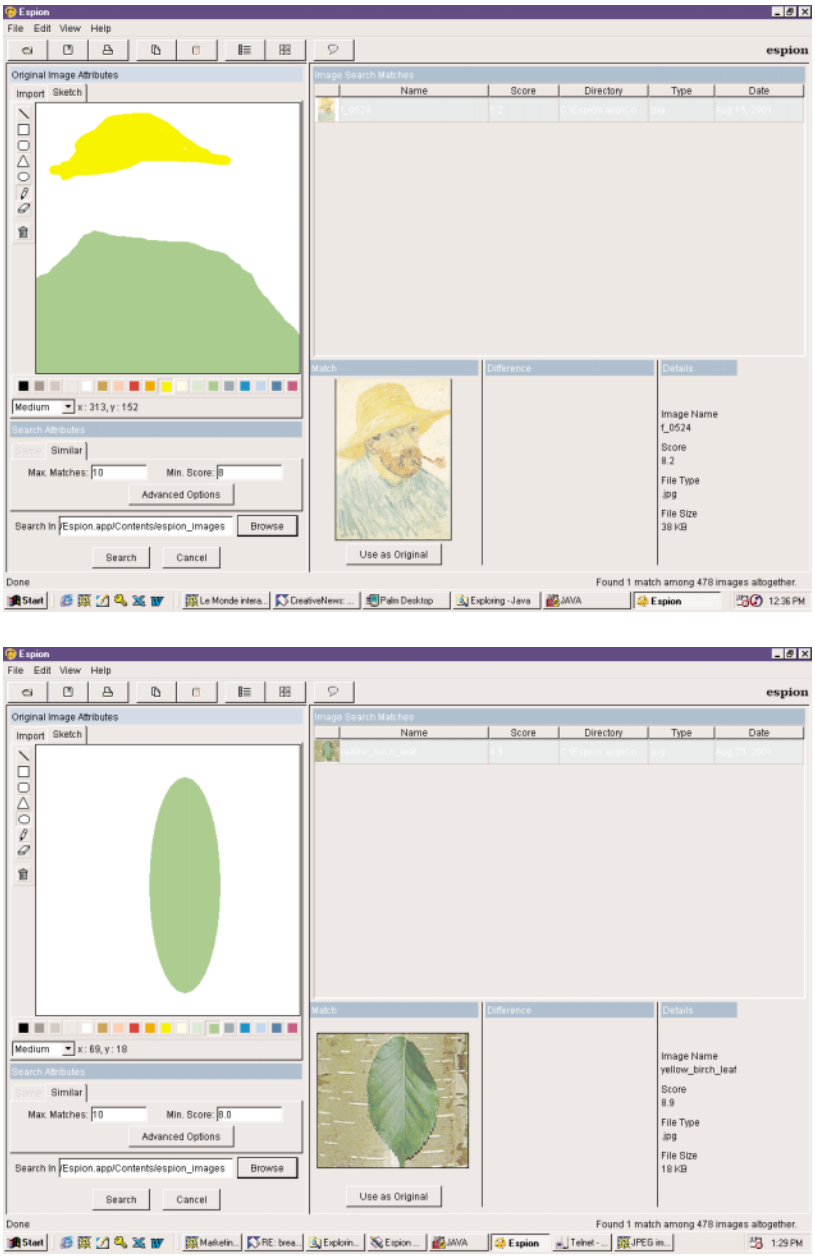
The core of the Espion technology is the Visual Comparison Engine, which resides on the same machine as the Cumulus server and maintains a database of image indices for each Cumulus catalog (group of assets) that will be searched using Espion. Essentially, Espion allows users to compare an original image with images in Cumulus to find either identical or similar images.

The comparison engine creates the indices by using algorithms that characterize the images. Users can select two types of searching: Similar and Same. In a Similar search, the engine searches the database based on 15 properties, including color, foreground, texture, composition, background, contrast, spatial relationship and luminosity, that might distinguish a given image. The algorithm calculates numerical values for the image upon which the search is based, then compares those numbers with the indices stored in the database. It then returns items with similar numeric values for review by the user. The retrieved images include a relevance score, thumbnail, file type and location. (Idée will implement the ability to view other metadata as well.)

The Same algorithm enables users to look for copies or modified (*e.g.*, cropped, color-altered, resized). For example, you could select a soda can in one image and then retrieve all other images in which that soda can appears. It would also work well if you were looking for usage of a certain version of a logo, for example.

But what if you don't have an initial image on which to base a search? Idée has an answer for that as well. Called Sketcher, this feature enables the users to search the database based upon a crude sketch *(see photo at left)*.

Users can alter the parameters of a search and control such variables as how specific the search is and what attributes are important in the search. The application displays matched images and details the likelihood of the match, as well as the degree of differences between the original image and the match.



Sketcher. The Sketcher in the Espion Visual Search Option enables users to search the database based on a rough drawing *(top)* or even a blob of color *(above)*.

Idée's technology is patent-pending, and it says plans to integrate it within with other asset- and content-management systems are under way. Future releases will add the ability to search video and audio files and will include face-recognition algorithms.

PDF access. The Cumulus PDF AssetStore Module is an add-on module that enables Cumulus 5 users to catalog and access pages within PDF documents. The PDF AssetStore Module automatically creates a record and thumbnail for each page of an entire PDF document. In addition, the PDF AssetStore Module reads out text of each page into the notes field, thus making the text searchable.

The PDF AssetStore Module is available for both Windows and Mac OS and costs $249 per installation.