

VIUS Reports 9.2

Faculty Focus Group on LionShare

August 2003

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Introduction

The Visual Image User Study (VIUS) team held a demonstration of the Penn State LionShare prototype for selected faculty members on August 28, 2003. This is one of the final such sessions conducted during the 26-month project. Previously, similar evaluations were organized for other image management systems including James Madison University's DID, Luna Insight, Content DM, and a prototype VIUS-developed application.

Participating in this LionShare demonstration and evaluation were four members of the VIUS project team, and ten faculty members who had been invited because they are relatively sophisticated and experienced image users; most had participated in one or more of the other demonstrations, and/or in other assessment activities (focus groups, interviews, surveys, authentication logs) carried out during the VIUS project. The ten faculty members were from visual arts, integrative arts, music, agricultural extension, poultry science, agricultural engineering, art, and architecture.

LionShare

A Peer-to-Peer Alternative to Centralized Approaches. Among the various image management systems examined during the VIUS project, LionShare is unique. The other tools have each been a variation of tightly administered, traditional client/server repository access and management systems. Some of these centrally oriented systems are well designed and expertly implemented. Previous user assessments recognized that these can be attractive, powerful, and "high-end," and that there clearly can be some obvious strengths to those types of approaches.

On the other hand, a variety of faculty and student assessments suggested that many of the identified priorities of users (such as maximizing access to content, and integrating personal and public image collections) could be more congruent with a fundamentally different, user-centered philosophy. Following through on those findings led to the development of LionShare as a sophisticated, authenticated peer-to-peer application. In brief, LionShare is a prototype application, currently about one year into development. It is being designed to enable greater access and use of personal and publicly available image collections, while providing security and enabling integration of private and public collections.

LionShare Philosophy. As demonstrated in August 2003, LionShare is a prototype in the proof-of-concept stage. The underlying assumptions, which at this point are also expected to guide further development, were illustrated in the LionShare demonstration. In many cases, implementation details of the ideas are yet to be worked through. Obviously, in this phase, demonstrations to and evaluations by potential users can be very valuable. In any case, the philosophical underpinnings of LionShare are as follows:

1. *Personal Information Management.* LionShare is geared toward easy-to-use personal digital management, which can be used primarily for organizing personal collections but could also be used to connect to other, public repositories.
2. *Simple, Intuitive User Interface.* LionShare attempts to leverage desktop computing power as well as recent and ongoing advances in federated search-and-retrieval capabilities to provide simplified, powerful interfaces.
3. *User-Defined Sharing.* LionShare is being developed on the assumption that the holders of image resources are responsible for the scope to which they share personal collections.
4. *Authenticated Access to Network.* LionShare development recognizes that there is a need for personal accountability in the distribution of images and the use of file sharing networks. LionShare will incorporate existing authentication mechanisms and services such as Kerberos, LDAP, and Shibboleth.
5. *Standard Metadata Structure.* LionShare is being developed with the idea that standardized descriptive information must be associated with each file, and that the time and effort required to create metadata descriptions should be minimized.
6. *Leveraging Open Source.* Open source efforts are an economical way to leverage software development across a large community, and LionShare is an open source application. (It is a heavily modified, multi-platform Limewire/Gnutella application written entirely in Java.) A number of partners and co-developers at other universities have already been involved.

Architecture and Features. A few of the features being designed into the LionShare architecture, as presented during the demonstration, are as follows.

1. *Persistence.* A possible drawback to P2P architecture is that when a resource holder is not on the network, neither are their resources. LionShare, however, adds a peer server that can act as a local aggregator of resources. Although the end user stills controls what is being shared and how widely, the peer server (when given authorization) can provide a persistent location for shared resources.
2. *Private Networks.* LionShare will allow sharing networks to be configured in a variety of manners, so that, for example, access control can be limited by either specified user groups or by IP addresses.

3. *Federating Multiple Smaller Networks.* LionShare will allow smaller private networks to be connected, if desired. It will also allow connections to central client/server resources through the use of shared metadata structures.
4. *Local Authentication.* It will be possible to control access and track how resources are used by authenticating specific users against local authentication services.
5. *Specialized Applications.* LionShare provides both core functionality and the flexibility to develop various specialized applications on top of that core functionality.

Faculty Evaluation

In general, faculty members were extremely positive about the LionShare demonstration and the discussion of the development philosophy and planned architecture and features (as summarized above). One indication was that two faculty members stayed after the session to discuss the potential for the system, with comments such as, “this is really the way to go,” “I’m looking forward to seeing this,” and “you guys are on the right track.”

In terms of advice and priorities regarding the further development and implementation of LionShare, the participants offered the following suggestions.

Thumbnails. There were several comments about the importance of thumbnails. While there is recognition of the importance of good metadata as well, there is a concern that no metadata scheme will be adequate to the way every user thinks about a particular image. One art professor said, “It’s impossible to get the ‘right’ metadata structure for a Vermeer picture that works for everybody. The way somebody else looks for it probably isn’t going to be the way I think about it.”

Batch Processing. Anything that can be done to simplify data entry and image management would be very helpful. Suggestions included:

- batch processing for metadata
- ways to automate metadata migration
- buttons that allow image-by-image downloads, downloads of “chunks” of images, and downloads of a folder.

Integration with Angel. ANGEL is the course management system used by instructors, students, and staff at Penn State (<https://cms.psu.edu/frameIndex.htm>). There is support for integrating LionShare with ANGEL (and by implication, with other related systems).

Importing from Other Environments. LionShare should make it easy to import images and data from other storage-organization-repository environments, such as iPhoto.

Copyright. Faculty recognize that LionShare developers are very sensitive to the seriousness of copyright and intellectual property matters. “It can be a complicated, difficult, gray area,” and careful attention must continue to be paid here.

Multiple Networks. The capability to designate both private and multiple public networks (such as making one collection available only to students in a certain class, and another collection available to anyone) is valuable.

Tagging Permissions. Participants support the idea of “tagging” permissions to individual files. They do recognize that the attributes cannot prevent subsequent use of files or folders as, for example, users pass along images to others outside a faculty members intended, approved user community.

“Unpublishing.” There was a related question about whether providers could subsequently “unpublish” or remove a image that had been shared. The explanation – that it could be deleted, but that if others had already copied it the image would remain in circulation – appeared to be satisfactory.

Marking My Images. There was support for a LionShare feature that would make it easy for image providers to somehow mark images they provide, perhaps with a corner imprint or a watermark of some sort.

Persistence and Related Matters. The idea of a persistent server is powerful and attractive in many respects, including the simple advantage of providing backup for private collections. There are questions about whether the demand for storage volume might outstrip storage capacity at some point.

Minimize Metadata Requirements. Realizing that more metadata is preferable to less, and that various schemes (VIUS, IMS, Dublin Core) can accommodate in the neighborhood of 20-60 fields, some participants nonetheless recommend minimizing the number of *required* fields for inclusion of images. However, there is a “classic tradeoff” here, in the words of one faculty member. Google Images already provides lots of images; one potential strength of LionShare could be that it would provide better information about the images.

Metadata and/or Images. Participants like the idea that LionShare will allow sharing of descriptive image about the image, a thumbnail, and/or the actual object.

Access to Log Data. There was a suggestion that image providers see log information about the number of hits on their images.

Still a Desire for Basic Digitizing Support. As has been true in many VIUS focus group and demonstrations, there continue to be comments about the need for very basic help (such as wage-payroll or work-study) in scanning existing collections of photos and slides.

Sooner, not Later. Several participants encouraged the team to make LionShare available as soon as possible, even in a beta form. They said, “I could use this now,” asked, “Could I use this right now to organize images from my digital camera?” and said, “I’d like to see even the crude, today Lionshare. I don’t want to wait for all the bells and whistles.”