

Further Development of the Digital Archive Services (*DASE*) Project: A Joint Special ITAC Proposal for 2007-2008

Submitted by:

**College of Liberal Arts - Liberal Arts Instructional Technology Services (LAITS)
Division of Instructional Innovation and Assessment (DIIA)
University of Texas Libraries
College of Fine Arts (CoFA)**

Summary of Requests:

LAITS/UT Libraries:	\$39,000
UT Libraries <i>DASE</i> Hosting	
<i>DASE</i> Federated Search	
<i>DASE</i> Federated Security	
Digital File Storage Services	
<i>DASE</i> Interaction Design and Usability	
LAITS/DIIA:	\$49,900
<i>DASE</i> /Blackboard Integration	
<i>DASE</i> /Pachyderm Integration	
LAITS/COFA:	\$19,500
<i>DASE</i> -based Visual Resources Collection Management Tool	
LAITS:	\$32,500
Ongoing <i>DASE</i> Core Development	
Total one-time ITAC grant request:	<u>\$140,900</u>

***DASE*: An Overview:**

The *DASE* Project, which recently entered its third year of development, has become an integral part of the UT campus information ecosystem. Faculty and students in the College of Liberal Arts and the College of Fine Arts have been using the system as a primary delivery, management and presentation tool for digital images, video and audio. *DASE* currently has over 60,000 digital assets available to users with a current UT EID, and is preparing for the addition of significantly more -- including 120,000+ images from the School of Architecture Visual Resources Collection. Current and planned collections include:

- Important museum collections such as the Blanton Museum's collection of original art and the Texas Archeological Research Lab's extensive collection of Texas historical and pre-historical artifacts.
- College-wide teaching collections such as the Visual Resource Collections in Fine Arts and Architecture.
- Departmental teaching collections such as those maintained by Classics, Middle Eastern Studies, Asian Studies, and others.

- Individual faculty teaching and research collections.
- Specialized collections, such as the collections of costume images in the Department of Theater and Dance and the collections of images of artifacts, site photographs, and documentation maintained by the Texas Archeological Research Lab, the Institute for Classical Archaeology, and the Department of Anthropology.

A principle design objective for *DASE* applications has been to provide custom functionality directly addressing the particular needs and uses of UT faculty and students, giving collection owners and managers wide, creative control over how digital assets are cataloged and published. *DASE* has been designed to fit the particular collections, needs, and conditions found at The University of Texas at Austin. This adherence to UT's special requirements sets *DASE* apart from other digital library projects and commercial applications. *DASE* applications are built from the ground up with UT in mind and are designed to grow and adapt to the changing environment on the Austin campus.

As the *DASE* project enters its third year, the focus of development effort is beginning to incorporate a new theme of *integration and interoperability*. While *DASE* will continue to serve the unique needs of UT faculty and students, the question naturally arises: how can the *DASE* content and functionality be combined with other electronic resources to give users a more seamless and powerful interactive experience with all of digital assets available both on campus and through internet-based open archives and repositories around the world? Towards this end, we would like to propose a number of partnerships that will enable just such integration and interoperability.

LAITS/UT Libraries Partnership:

Moving *DASE* to UT Libraries servers

What it involves:

- Create application development, testing, and production hosting space on library servers.
- Create Source Code Repository on library servers.
- Provide file storage for archival images and other digital assets, as well as 'live' web storage of the digital assets being accessed through *DASE*.

What it means to faculty and students:

- With the bulk of the *DASE* assets and application code living on UT Libraries servers, faculty and students will enjoy the same high level of availability for resources in *DASE* that UT Libraries provides for its other resources.
- With decreased infrastructure maintenance needs, Liberal Arts will be able to direct more energy to the development of collections and interfaces to access collections.

Federated Searching

What it involves:

- Hosting *DASE* on multiple servers in multiple departments to accommodate the rapid growth in the number of collections, digital assets, and users.
- Developing an application model based on 'distributed resources with standardized interfaces' where each collection in every instance of *DASE* will be accessible by way of a standardized (XML) interface.
- The *DASE* Media Browser will provide access to all public *DASE* collections, no matter where they are housed.
- Other applications and websites will also be able to interact with *DASE* collections through an application programming interface (API), performing find commands and displaying content in custom layouts.

What it means to faculty and students:

- Federated searching will allow users to have just one interface for all *DASE* collections -- no matter if the collection resides on a server at the library or at LAITS or anywhere else on campus.
- *DASE* collections will be able to be integrated with other search interfaces provided by the library.

Federated Security

What it involves:

- Develop the *DASE* Authenticator, a component of a campus-wide security model, using ITS developed infrastructure such as TED, TAM, XML Gateway, etc.
- All aspects of *DASE* operations -- from searching to collection management to asset management to user management -- will make use of this federated security infrastructure.

What it means to faculty and students:

- A federated security model will allow *DASE* to be more closely integrated with other systems on campus such as Blackboard, UT Direct, or the Library Catalog.
- Faculty and students to have more seamless access to *DASE* collection management tools, including the ability to create, upload to, and manage 'private collections'.
- Intellectual property restrictions will be enforced automatically, behind the scenes.

File Storage Services

What it involves:

- Develop a distributed file storage model closely integrated with existing services such as WebSpace and UT Libraries' large-volume archiving service.
- Design the file storage system to make use of the federated security.

What it means to faculty and students:

- Providing a shared, authenticated, and ubiquitously accessible storage solution for *DASE* and its users will make *DASE* hugely scalable.
- These file services will simplify access for faculty and student content creators. A simple scenario might be a faculty member who accesses shared file storage -- such as WebSpace -- right on his desktop where he can drag and drop any digital items (images, audio, documents, etc.). *DASE* will automatically create item records for these items. When the faculty member logs into *DASE*, he will have immediate access to his collection in order to add metadata, create presentations, share with students or colleagues, or even set up a podcast.

DASE Interaction Design and Usability

What it involves:

- The *DASE* Media Browser and Collection Builder (<http://dase.laits.utexas.edu>) are powerful tools that are both easy to use and sophisticated in functionality. Maintaining a balance between ease-of-use and complexity of operation is an ongoing and important effort. The Digital Collection Research Group at the UT Libraries will act as a critical guiding force, through both usability testing and interaction design, ensuring that *DASE* fits the evolving needs of users.

What it means to faculty and students:

- Much of the success of *DASE* to date has been the simple, accessible, web-based interface that new users can make sense of immediately. As the *DASE* adds functionality, is incorporated into other systems, and incorporates materials from other collections, the sense of simplicity and power will be maintained.

LAITS/DIIA Partnership:

Blackboard and Pachyderm integration

What it involves:

- Integrate *DASE* into UT Austin's centrally supported course management system, Blackboard, through the Blackboard building block integration tool.
- Develop seamless integration between *DASE* and the Pachyderm authoring system, an open source tool that facilitates the creation of interactive online presentations.

What it means to faculty and students:

- The integration of *DASE* and Blackboard will allow faculty to easily share digital collections with the students enrolled in their classes.
- Students will have a direct link from Blackboard to collections specifically created and defined by the course instructor.
- 'Fair Use' of copyrighted material will be handled by restricting access to students enrolled in specific classes.
- Pachyderm will allow faculty and students to quickly and easily develop attractive, interactive, online presentations using images, text, audio, and video from *DASE*.

LAITS/College of Fine Arts Partnership:

Fine Arts faculty in the Art History division increasingly rely upon *DASE*. With over 15,500 Art History specific images available, it is used extensively to teach the survey courses on which the campus depends, and it has demonstrated surprising utility in more specialized aspects of the discipline.

Currently, metadata about digital images and the roughly 500,000 other images not yet digitized resides in a SQL database hosted on an ITS server. The tools used to add and edit image metadata were custom programmed several years ago by a now defunct company. With further development or maintenance of the legacy tools an impossibility, new systems must be developed to maintain the collection.

DASE harvests the metadata needed for digital images in the Visual Resource Collection *DASE* collection, but it does not currently host the entire data set.

DASE-based Visual Resources Collection Management Tool

What it involves:

- Integrate *DASE* with the digitization, ingest, and metadata creation processes for the Visual Resource Collection.
- Build custom search interfaces for VRC users.

What it means to faculty and students:

- One-stop, web-based shopping for the entire 500,000 image VRC collection.
- The efficiency of VRC staff is greatly enhanced and digital images of artwork become available at a quicker rate.

LAITS Ongoing *DASE* Development:

Critical to the continued success of the *DASE* project is the effort of the Liberal Arts core development team. This effort encompasses everything -- from application architecture and software design to administrative oversight of content creation, digitization and acquisition -- to the actual scanning of

tens of thousands of images. The LAITS team will continue to be committed to all of the requirements of the *DASE* project, both in maintenance of current operations and planning and development of the ongoing effort. Funding for this proposal will ensure that this team has the resources to support users beyond the College of Liberal Arts.

Budget Summary

The four partnering units will be dedicating a combined 3.5 FTEs to the *DASE* project in 2007-2008. These staff will be engaged in core development, department specific functionality, scanning, digitizing, and metadata creation. We request a total of \$140,900 to fund additional staff for development of the campus-wide integration and functionality describe above. This is a one-time request that will take our archive services to the level required for a campus resource.

LAITS/UT Libraries:

UT Libraries *DASE* Hosting
DASE Federated Search

DASE Federated Security
 Digital File Storage Services
DASE Interaction Design and Usability

2 Systems Analysts (4 months) \$39,000

LAITS/DIIA:

DASE/Blackboard Integration

DASE/Pachyderm Integration

Pachyderm Software and software support	\$10,000
Senior Systems Analyst (4 months)	\$21,600
Systems Analysts (4 months)	<u>\$18,300</u>
	\$49,900

LAITS/COFA:

DASE-based Visual Resources Collection Management Tool

Systems Analysts (4 months) \$19,500

LAITS:

Ongoing *DASE* Development for Campus-wide functionality

Senior Systems Analyst (6 months) \$32,500

Total Request \$140,900