

Project Title: Digital Image Search and Distribution System
Project Category: Strategic Initiative Grant
Principal Investigator: Allison J. Cywin, Visual Resource Curator
Other Participants: Craig Oliveria (CITS Investigator)
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Total Amount of Funds Requested: \$25,000

Concise project summary (limit 250 words): The Visual Resource Collection of College of Visual and Performing Arts (CVPA) at University of Massachusetts Dartmouth has embraced the digital age by expanding its mission and services to digital production and acquisition of image and multimedia digital resources for campus wide distribution. In the next few years, Visual Resource Collection will increase its services by establishing a Visual Resource Center (VRC), a virtual and searchable library of images and multimedia content. Its purpose is to foster and to support the use of digital imagery, multimedia and audio content. To do so, the VRC has embarked on a “Six-PHASE” digital initiative to acquire and to generate a digital multimedia and image database system. This centralized database system will allow faculty and students to access visual content from their office desktop or remotely from home. This endeavor will create a virtual learning space that provides a new environment for research, scholarship and classroom instruction. In addition, this database will complement existing technologies such as WebCT, by enabling faculty to point to specific image reserves without over tasking the WebCT system with image content.

The Visual Resource Center and Computing and Information Technology Services respectfully submit an application for full implementation of “PHASE 4” of a five-year (2005-2010) digital initiative to transform the slide library to a digital repository. The SIG will allow CITS and VRC to develop a web portal that will allow faculty and student remote access to VRC’s digital images and multimedia instructional search and delivery system. With this grant we will: (a) hire and train graduate student employees to supplement release time of the professional staff to work on the project, (b) deploy the UMassD LDAP system at the College of Visual and Performing Arts; (c) purchase additional 5TB storage discs space; (d) develop and implement disaster and backup protocols and procedures for long term preservation and migration of the digital masters and LUNA database system; (e) hire LUNA to assist in the configuration Insight’s Advanced Authentication and Authorization System and UMassD LDAP system; (f) construct image and multimedia web portal; (g) test the web portal; (h) promote, train, and support faculty and students with the new image and multimedia database system

Allison J. Cywin, Curator, Visual Resource Collections	Date
Memory Holloway, Chair, Department of Art History	Date
Michael D. Taylor, Dean, College of Visual & Performing Arts	Date
Anthony J. Garro, Provost and Vice Chancellor for Academic Affairs	Date

2. Project Narrative

Visual Resource Digital Initiative: Images and multimedia resources are fundamental to classroom instruction and the learning experience. At UMass Dartmouth the Visual Resource Collection (VRC) of the College of Visual and Performing Arts (CVPA) plays a central role in supporting these pedagogic objectives by insuring that these resources are of the highest quality, accessible for research, instruction and study. Traditionally, VRC has fulfilled this mission by collecting and distributing 35mm slides. Aware of these technological shifts, VRC has commenced to transform the slide library to digital. In the past four years, VRC has embarked on a five-year digital initiative to establish a digital lab and centralized database system that allow faculty and students access to image and multimedia content remotely from the home or office. This endeavor will create a new virtual learning space that provides new opportunities for shared research, scholarship and classroom instruction. In addition this database will complement existing technologies such as WebCT, by enabling faculty to point to specific images reserves without over loading the WebCT system with image content. The goal of the project is to bring together isolated solos of image and multimedia content into a centralized digital search and delivery system.

In the past four years, VRC has successfully pursued financial support for its digital initiative through internal and external sources and has acquired \$44,260 towards its goal. With this support, VRC has been able to stay the course and complete the first three phases on time and in accordance with the five-year work plan. In PHASE 1 and PHASE 2, VRC established a professional digital lab, and infrastructure for digital capture, and management, adopted and employed national and international standards for digital content, and evaluated digital asset management applications for image and multimedia instructional materials. PHASE 3 VRC built the database infrastructure and begun to populate the database with digital image and descriptive content for faculty and student consumption.

Project Overview

PHASE 4 (FY07-08) is to develop web portal for CVPA (including Star Store) faculty and students to gain access to the VRC image and multimedia database system. With this goal VRC is faced with two major challenges. The first is to adhere to U.S. Copyright Fair Use and Teach Act of 2002 laws, by restricting access to the image and multimedia content to the university community. The second challenge is to develop a web portal that is password protected and can verify the credential of the user. Once the user has been authorized, the image and multimedia database system (LUNA) will be launched. Students and faculty will be able remotely to search and retrieve digital instructional digital content materials.

To achieve these goals, Computing and Information Technology Services (CITS), and VRC has formed a partnership to develop a test-model to be deployed at the College of Visual and Performing Arts including remote campus, Star Store. Upon the completion of PHASE 4, VRC and CITS will begin to deploy this test-model to other colleges across the UMassD campus (PHASE 5), with eventual implementation to the greater UMass system (PHASE 6).

Project Activities – PHASE 4

Activity 1: Deploy the Lightweight Directory Access Protocol (LDAP) system within the College of Visual & Performing Arts (CVPA)

CITS estimates 37.5 hours of staff time to implement and test the LDAP system within CVPA. The LDAP system must be deployed in order to integrate the LUNA database application (refer to Activity 4).

Activity 2: As part of the project VRC and CITS seeks support with the purchase of 5TB disc storage (Serial ATA Clarion System).

VRC is about to reach a critical mass in regards to data storage of its digital masters. A preservation digital master is a digital facsimile that is a faithful render of the physical object or photographic representation. Digital masters are used to generate derivative images for classroom instruction and LUNA image and multimedia database. A master is equivalent to a negative; and allows for multiple copies to be reproduced at various qualities and purposes. It provides flexibility of deliverables not only for today's instruction, but those needs in the future. The digital master is of the highest quality scanned possible and therefore is a very large file in scale, a minimum of 40 MB. The preservation and maintenance of the digital masters is critical to longevity and usefulness of this material in the future.

Activity 3: Development and implementation of disaster and backup protocols to insure long term preservation and migration of the digital masters and LUNA database system. (8 hours)

Among the biggest dilemmas facing migration of digital image content and database system are broken links often caused by transfer of digital content from one server to the other or one system to the other. CITS and VRC will develop a generic file path convention that will consider and accommodate future changes within the greater UMassD infrastructure and systems, thus ensuring the interoperability of the digital assets in the future. CITS will implement the new system and export digital assets and data from its current storage location to the new storage disc space.

Activity 4: Configure Insight's Advanced Authentication and Authorization System with LDAP

CITS will work in conjunction with LUNA Imaging System Inc. to configure the Insight component of the LUNA application with UMassD's LDAP system. Based on past experience, LUNA Insight estimates that the process will take approximately four days (\$1,500 per day) and will require LUNA professional development service, which falls outside the annual technical support and maintenance fee. The process will also require equivalent staff time from CITS.

Activity 5: Construct and test web portal via VRC web site.

In coordination of with UMassD Information Systems Integration Team, VRC will develop a web portal that will provide access to the LUNA image and multimedia database system. The web portal will include copyright notification, links to instructional page for faculty and students and a prompt to enter user name and password. The instructional page will be developed by the Visual Resource Curator along with the construction and operation of the web portal. Access to the web portal will through the VRC web site, and the library web site.

Activity 6: Test and troubleshoot system

VRC will charge a committee of users comprised of CVPA faculty and students to test access and usability of LUNA database system from their office, remotely from home and from satellite campus Star Store. The system will be tested for login and access successes, connectivity on and off campus including CVPA remote campus Star Store. Adjustments will be made by CITS and additional service hours may be required by LUNA Imaging Inc.

Activity 7: Promote, train, and support staff and students with the new centralize database system.

Visual Resource Curator will demonstrate the LUNA database system at the CVPA freshman orientation and graduate student orientation. VRC curator will coordinate individual and group

instruction and demonstrations to be held at the main campus and Star Store. Promotional materials such as flyers, press releases, and electronic announcements will be distributed across campus.

Project Results:

The main goal of PHASE 4 is to develop a web portal that will allow faculty and students remote access to digital image and multimedia instructional content whether it be from the office, from the classroom or at home. PHASE 4 will serve as a test model for full implementation to the greater university community. VRC has already conducted preliminary discussions with the UMassD Photographic Department to adopt the LUNA application for their digital needs. Similar discussions have transpired with other departments including the library, anthropology department, history departments.

3. Project Deliverable

The goal of the project is to develop a test-model that enables faculty and students access to the image and multimedia database system via a localized intranet system. The following activities will be delivered.

- Deployment of UMassD Lightweight Directory Access Protocol (LDAP) application for CVPA.
- Configuration and integration of the LUNA image and multimedia database application with UMassD LDAP system.
- Build and launch a web portal that will allow faculty and students remote access to the VRC's new digital image and multimedia search and distribution system.
- Schedule and conduct training sessions, demonstrations and develop an instructional guide for the new VRC's image and multimedia search and distribution system.

4. Dissemination of Project Results

Visual Resource Curator will conduct individual and group instruction. Individual instruction will be made available by appointment and will take place in faculty offices or VRC facility. Four group training session will be scheduled and will be held at the VRC research room and CVPA's satellite campus, Star Store. Training sessions will be held at department meetings and demonstrations will be developed and presented at a UMassD Board of Trustee meeting and general Dean's meeting in coordination with the dean of CVPA and Art History chair. The web portal will be made available through the VRC web site and CVPA home page. An instructional guide to the LUNA application will be developed and will accompany the web portal.

Promotion to publicize VRC's *Image and Multimedia Database System* will include a press release and flyers to be distributed throughout CVPA and university community; electronic announcements will be presented via CVPA e-newsletter and university website along with the university library web page (VRC is currently linked to the Library web page.)

5. Project Budget: To complete PHASE 4, VRC and CITS seek support of \$25,000. The monies will be used to deploy the LDAP application, configured LUNA application with LDAP and develop a web portal for faculty and students to gain remote access the VRC image and multimedia search and delivery database system. CITS is contributing \$24,000 (Upgrade controller to accommodate the new storage discs), the College of Visual and Performing Arts is contributing \$1,500 towards annual maintenance.

The SIG grant monies will be allocated as follows:

	Strategic Initiative Grant	UMass Dartmouth CITS	College Visual Performing Arts	Total
	Expenditures	Expenditures	Expenditures	Expenditures
5 TB - Storage Discs (Serial ATA Clarion System)	\$14,000			\$14,000
LUNA Development Consult	\$6,000			\$6,000
Student Employment - VRC	\$5,000			\$5,000
Disc storage shelve		\$24,000		\$24,000
Craig Oliveria – CITS (Supervisor) 10%		\$5,000		\$5,000
CITS Staff 25% (Information Systems Integration Team)		\$12,500		\$12,500
VRC Curator 35%			\$17,500	\$17,500
Office Supplies			\$200	\$200
Totals	\$25,000.00	\$41,500.00	\$17,700.00	\$84,200.00

6. Project Timetable

May – July	Hire and train student help. Purchase and install disc storage.
July - Sept	CITS deploy LDAP system and backup protocols.
Sept - October	Configure LUNA application with LDAP
October - January	Develop and construct interface for LUNA web portal.
January – February	Test and troubleshoot LUNA web portal.
March	Develop and post “User Guide” for the VRC Image and Multimedia LUNA system on VRC web site.
February – June	Schedule and conduct LUNA training sessions
February – June	Schedule and conduct LUNA demonstration throughout the UMASSD campus.
February – June	Write and distribute press releases, electronic and analog announcements, and web postings.

7. Principal Investigator, Participants and Qualifications:

Allison J. Cywin—Principle Investigator --- Visual Resource Curator

- Allison J. Cywin has established similar image and multimedia digital programs at Rhode Island Historical Society. She has a Masters in Library and Information Science with an emphasis in digital and electronic archives.

Craig Oliveira, CITS Enterprise System Administrator Manager

- Network Systems Specialists for UMass Dartmouth – Heads a team to develop and maintain centralized systems and data center operations based on established standards. The center maintains centralize data storage, maintains and mangers servers including backup, recovery and archiving of University data. Mr. Oliveira maintains VRC current server.

Holger Dippel CITS/Internet Development Manager/Systems

- Design and develop interfaces to other campuses and central services to support cross-campus systems integration. Provide integration between commercial, open source, and in-house developed software and web applications. Provide web application integration with other CITS departments and UMass Central Services.

Digital Assistant:

- Job Qualifications – Experience with Adobe CS application, with the scanning process and scanning applications.

8. Letters of Recommendation

Donna Massano - yes

Craig Oliveira - yes