1993 Project Abstract
FOR THE PERIOD ENDING JUNE 30, 1995
This project was supported by the Environment and Natural Resources Trust Fund.

TITLE:	The On-Line Museum: Computer and Interactive Video
PROGRAM MANAGER:	Orrin C. Shane, III
ORGANIZATION:	The Science Museum of Minnesota
LEGAL CITATION:	M.L. 93, Ch. 172, Sec. 14. Subd. 7(d)
APPROP. AMOUNT:	$260,000

STATEMENT OF OBJECTIVES:

Design video image retrieval system, create electronic specimen image database, and prototype public information consoles.

RESULTS

This project created a computer-assisted museum specimen catalogue system that integrates specimen images and scientific data into a museum collections database. This system is completely digital, allowing rapid editing and updating of catalogue information and efficient dissemination of information to scholars, students, and museum visitors. SMM staff created a database of over 25,000 entries. This number is about one-half the number of entries we had hoped to complete, but the process was more time-consuming than anticipated. Two prototype public programs were created, one a didactic explanation and illustration of the ARGUS system displaying images of museum specimens. The second program is a 30-minute touch screen interactive multimedia computer program called "My Village." "My Village" is an extremely popular multimedia experience that lets museum visitors explore a Hmong village in Southeast Asia and discover the sights, sounds, work and play that illustrate traditional Hmong life. "My Village" is a prototype computer program that can be easily transferred to CD interactive for wider dissemination beyond the museum. This project has leveraged significant federal support for continuation through a $255,000 grant to SMM from NEH for 1995 and 1996.

PROJECT RESULTS USE AND DISSEMINATION

Since its beginning in 1993, the ON-LINE MUSEUM project has grown to become one of the major strategic programs of the Science Museum of Minnesota. SMM's new strategic plan, adopted by the Board of Trustees in 1993, has established as a major priority making SMM's cultural and natural history collections more assessable to scientists, the general public, and especially school-age youth. ON-LINE MUSEUM and related programs have emerged as the primary means by which increased accessibility is to be accomplished. In this sense, ON-LINE MUSEUM has become a part of Minnesota's future, both within our present facilities over the next five years and in our planned new facility after the turn of the century. As a science collections database ON-LINE MUSEUM provides primary material for other SMM programs disseminating science education to Minnesota.

LCMR Final Workprogram Update Report

I. Project Title: THE ON-LINE MUSEUM: COMPUTER
     AND INTERACTIVE VIDEO

          Program Manager: Dr. Orrin C. Shane, III
          Agency Affiliation: Science Museum of Minnesota
          Address: 30 East 10th Street
               St. Paul, MN 55101
          Phone: (612)-221-9436

A. Legal Citation: M.L. 93 Chpt. 172, Sec 14, Subd. 7d
          Total Biennial LCMR Budget: $260,000
          Balance: $4,431

The appropriation is from the trust fund to the Commissioner
of Education for a contract with the Science Museum of
Minnesota to create an interactive video database of
selected cultural and natural history collections as a
prototype for a unique learning experience in environmental
education for museum visitors and school children.

B. LMIC Compatible Data Language: N/A

C. Status of Match Requirements: N/A

II. Narrative: This project creates a touch-screen
interactive video database for selected Minnesota cultural
and natural history collections, providing a prototype for a
unique learning experience in environmental education for
museum visitors and school children.

III. Statement of Objectives:
     1. Design video image retrieval system
     2. Create electronic specimen image database
     3. Prototype and produce public information consoles

IV. Objectives:

A. Design video image retrieval system.
     A.1. Narrative: Establish systems goals, integrate
          interactive video system with existing ARGUS
          collections database, specify and purchase
          hardware.
     A.2. Procedures: Work with consultants (Questor
          Associates) to define system goals. Using system
          goals, specify hardware needed for ARGUS video
          database work stations; purchase hardware and
          create stations.

A.3. Budget: Page 1
     a. Amount budgeted: $90,000
     b. Balance: $0.00 Cutoff: June 30, 1994

A.4. Timeline: 7/93   1/94   6/94   1/95   6/95
     Design   -------
     Spec. Hdwr   ----
     Purchase   ---
A.5. Status: The image capture facility has been
     completed and equiped, and is fully operational.
     The digital camera back-ordered in January, 1994,
     was purchased in February, 1994 and has been
     integrated into the system. This program
     objective has been achieved, generally on schedule
     and on budget.

     It is important to note that this project has
     leveraged significant federal support for
     continuation in the form of a $255,000 grant from
     the Access Program of the National Endowment for
     the Humanities. This new grant activates 1/1/95
     and provides support through 12/31/96. The
     success of the NEH grant application was based on
     both the quality of the system created by this
     LCMR project and by the quality of the work
     completed through June. 1994.
A.6. Benefits: A user-friendly interactive system that
     integrates science information and specimen images
     for collection management and public electronic
     access.

B. Create electronic specimen image database.
     B.1. Narrative: Capture digital images of 55,000
          objects and integrate ARGUS collection catalog
          information with images.
     B.2. Procedures: Using digital cameras, photograph
          specimens. Using a capture computer, "catch"
          digitaized images. Apply software that brings
          image into window of ARGUS object screen.
     B.3. Budget:
          a. Amount budgeted: $100,000
          b. Balance: $0 Cutoff: June 30, 1995
     B.4. Timeline   7/93   1/94   6/94   1/95   6/95
          Photograph   ------ ----------------
          Image capturing   - ----------------
          Installation   -----
     B.5. Status: The image capture phase of the project
          began 2/1/94, and remains on schedule. Several
          thousand images have been captured and work
          continues daily. Our image capture rate improves
          daily with experience and refinement of computer
          software.

B.6. Benefits: Photo-documentation of significant coll.ctions; images and information electronically acce:sible for museum programs and schools.

C. Prototype ind produce public information consoles.

C.1. Narrative: Design and build prototype touch-screen interactive video console for public use. Install and test two units in SMM exhibit halls.

C.2. Procedures: SMM exhibit design staff and video technicians will design console; SMM shop will build units.

C.3. Budget:
a. Amount budgeted: $70,000
b. Balance: $4,431 Cutoff: June 30, 1995

C.4. Timeline: 7/93 1/94 6/94 1/95 6/95
Design ------------
Prototype -----------
2 unit install. --------

C.5. Status: Created "My Village," a 30-minute interactive multimedia computer program. "My Village" brings together a rich array of specimen images and text, photographs, animation, video, audio, and narrative text to provide a multimedia experience that lets the participant explore a Hmong village in southeast Asia and discover the sights, sounds, work and play that illustrate traditional Hmong life.

C.6. Benefits: Electronic public access to a substantial part of SMM's scientific collections relevant to environmental education.

V. Evaluation: Evaluation, using a variety of instruments, is a standard part of most SMM projects. For On-Line Museum we will evaluate in terms of the percent of objects and specimens entered into the electronic image data base (Did we meet stated goals?) and in terms of audience reaction to the prototype public information modules. The latter evaluation will be by visitor survey and direct observation of time spent per visitor at a console, record for which can be programmed into the console.

VI. Context: SMM houses several hundred thousand outstanding natural history objects and specimens from Minnesota. Fossil sea life from the Iron Range, clams and crayfish from lakes and rivers, birds and mammals from pine forests and tall grass prairies; ancient and modern artifacts and costumes illustrating cultural diversity, all contribute to the environmental education story in the State.

This project will vastly increase our educational impact by making SMM environmental education collections more accessible to the public in a proven cost-effective manner. This project highlights biological extinction, biological diversity, endangered and threatened species, indicator species, and cultural diversity.

SMM has purchased and installed the ARGUS computer-assisted collection management system at a cost of $100,000. This work builds on the existing ARGUS system by adding interactive video images of specimens to a catalogue database.

VII. Qualifications:
Program Manager
a. Ph.D. in anthropology with 25 years academic and museum experience. Currently Head, Science, Research and Collections Division at SMM with budget ca. $750,000; have directed five projects with budgets between $100,000-$1,000,000. Directed acquisition and installation of ARGUS compu:erized collections management system at SMM.
.b. Science Museum of Minnesota, Department of Anthropology

VIII: Reporting Requirements:
Semiannual status reports /ill be submitted not later than Jan. 1, 1994, July 1, 1994, Jan. 1, 1995 and a final status report by Jur: 30, 1995.