

National Park Service
Challenge Cost Share Project Accomplishment Report

Return form to: Lewis and Clark National Historic Trail, Challenge Cost Share Program, 601 Riverfront Drive, Omaha, NE 68102

Project Name or Title: Lewis, Clark and Beyond (formerly Lewis and Clark gNET)

Project Number: CCS # FY05-111

Project Coordinator: Dr. Ken Dick

Address, Phone, & Email:

6001 Dodge St. PKI 173D
Omaha, NE 68182-0116
(402) 554-4952
kdick@mail.unomaha.edu

Field Area: Midwest Region

Park or Trail: Lewis and Clark National Historic Trail

Briefly describe the Trail project products and results in measurable terms (provide details so that project results and benefits can be publicized). Attach reports, documents, pictures, invoices and/or final product example as needed:

During the 2005 fiscal year (FY 05), the following tasks were completed. Graphs below show progress in work compared to previous years.

3D Intro Animation

- Completed model of Sacagawea and Bear for animation
- Created background scenes for animation
- Rendered Bear, Natives, Eagle, and York scenes using various color depths and settings to compare
- Using the "one-color" setting, filesizes are much smaller with minimal loss in quality
- Created scenes with camera angles, and exported them to Flash
- Completed all renderings for animation
- Compiled Flash files together to create large animation
- Compressing SWF files to flat JPGs to be used to create a smaller animation
- London (main 3D student worker) taught a Maya workshop to several groups of summer camp students, using the project as an example

Equipment

- Performed general and preventative maintenance on server equipment to enhance uptime
- Documented and evaluated network infrastructure
- Instructed several student workers on the how/why we have the network set up as it is; included basic training on networking at the hardware level
- Added Flash Communication Server to the project to allow for streaming Flash videos.
- Purchased a 5 MP camera for Virtual tour photo data collection (see section below)
- Successfully worked through two storage device failures with no data loss.

- Reconfigured storage solution to allow for multiple drive failures, shelf failure, or cabling failure without disruption of the system
- Set up direct connection to the Lewis and Clark private network to one office computer, to allow GIS work without having to be in the server room
- Investigated upgrading the database server. No upgrade necessary, though possible.
- Investigated upgrading server OS to Ubuntu Linux, including a PHP and MySQL upgrade. Upgrade possible, but not planned.

General

- Printed Tech version of brochure to highlight students, partnerships, and stats of website more than content. The Dean received a pack for hand-outs
- Highlighted Lewis Clark and Beyond website to a CIO meeting held at PKI
- Developed server plan for deploying new URL without breaking old gNET bookmarks and links
- Worked on connecting links in our database to links provided with the videos
- Stopped archiving exports to the storage device; stopped keeping exports after compressions completed
- Produced a DVD-ROM video of the Oct 2005 NPS Core Competencies Training as a modification to the grant
- Created "Lessons Learned" document from NPS Conference video, to help future video projects with the NPS
- Created extensive database documentation to help new developers work with the system, including PDF files of schemas and ERDs
- Submitted quarterly and yearly reports to NPS for the grant
- Submitted CCS 2006 application, received award

Maps

- Attempted to resurrect GIS system for use with Lewis and Clark website, including purchase of new GIS licenses.
- Helped promote GIS curriculum in the university
- Hired student workers to work on GIS; created new ArcMap documents to serve.
- Added Google Map page to website: using Google Maps API, Lewis and Clark events show up in much more interactive and updated form
- New Google Maps page replaces GIS content
- Moved GIS data to new MSSQL server as the IBM mainframe was removed
- ArcIMS does not currently support the type of functionality the we desire for the sharing the mapping system on the internet
- Created Google Earth (KML) files that can be downloaded from the website to show Corps II stops (old and new)

Multimedia Lab

- Ran tests and set up new video editing system for compressions. Now, compression process is automated, using the 1 Gbit/sec lab network.
- As part of a cooperative agreement with another professor in the college, opened the multimedia lab with schedule hours to help grow interest in the technologies used in the project.
- Arlo Grafton instructed and directed Post-Production class in the creation of Feature Videos on the site.
- Created in-depth documentation for Post-Production class and new video editors on how to use the Avid system for Lewis and Clark videos
- Upgraded lab to Maya 7, in conjunction with College of Communication, Fine Arts, and Media

Personnel

- Posted for, interviewed, and hired three web developers throughout the year to fill the need as main developers left the project
- Posted for, interviewed, and hired two video editors throughout the year to fill the position as students graduated
- Hired a 25% FTE student worker to specialize in Flash development
- Hired a 25% FTE student worker to specialize in Map/GIS development
- Performed network analysis of streaming videos
- Assisted College of Communications, Fine Arts, and Media hire a web developer

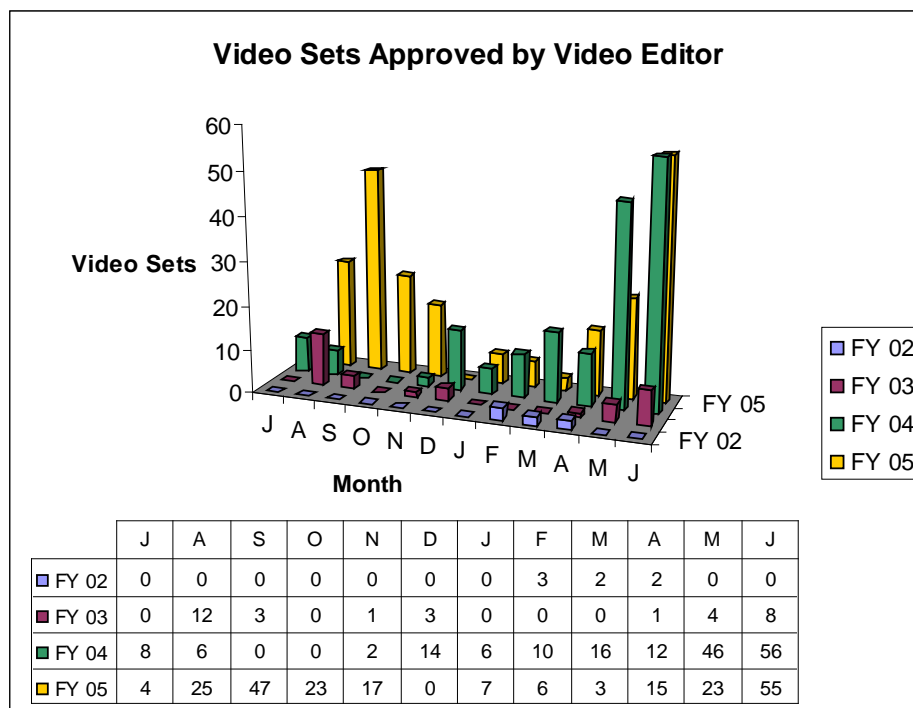
Trivia Game

- Started work on an educational trivia game
- Created admin pages for updating and creating questions
- Created several categories for use in the game
- Designed 3D animations based on London's 3D intro characters for use in the game
- Game layout, interface, and functionality designed and started

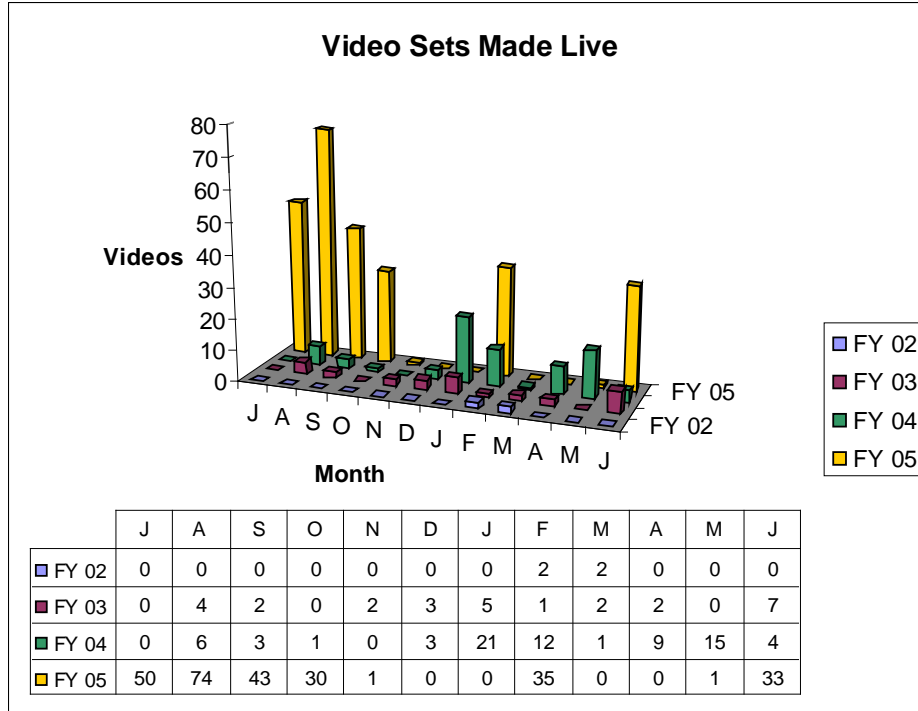
Videos

- Returned 2004 tapes to NPS
- Received, dubbed, 2005 tapes to start editing
- Received first batch of 2006 tapes to start editing
- Ordered and received new organizational materials (cases and tapes) for the new batches of tapes
- Was able to talk with primary video editor on-site at Corps II in Boise and discuss process and progress.
- Submitted 225 videos, **267 presentations were made live over the year.**

This chart shows the progress of videos submitted over the course of the project. When a video is approved by the Video Editor, it has been captured in the system and then afterwards goes through content checks with the Content Manager.



When a video is approved by NPS (or a representative) it is made live and becomes available on the website for all to see.



The increase in video production was largely due to the fact that the compression process was bettered, and video editors are able get through more videos in less time. Other automation techniques have attributed to the increase in the number of videos made live for the year.

Virtual Tour

- Added Virtual Tour as a modification to the grant
- Traveled to Long Beach, WA to take pictures of Corps II tent, in order to create 360 photos and the online version of the tent.
- Worked on stitching photos together and creating QTVR files for the tour.
- Concluded that QTVR was not the tool to use, to properly share the Corps II tent.
- Created 3D Corps II tent using Maya. From this model, animations simulating movement through the tent were rendered and used to create the interface
- Traveled to Boise, ID to revisit Corps II tent and get more pictures to work better with 3D style virtual tour.
- Received many supporting documents and materials from NPS while in Boise for inclusion in the virtual tour: inventory of artifacts, official descriptions of panels, audio files from tour

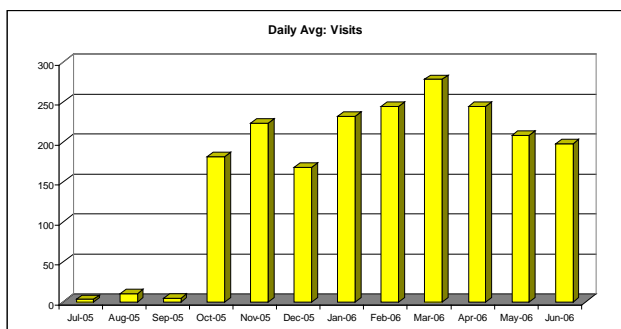
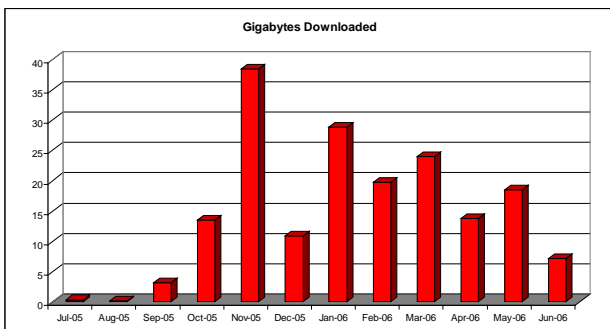
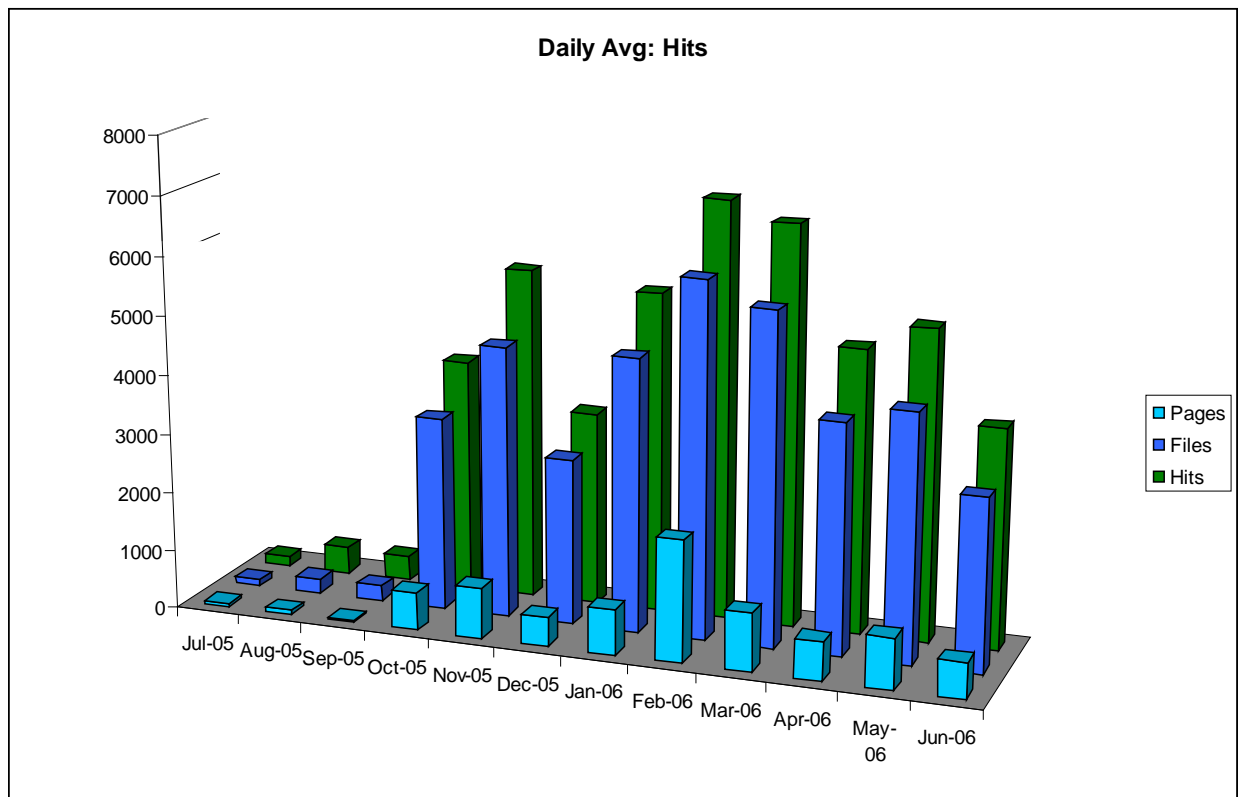
Website

- Switched to new URL – <http://www.lewisclarkandbeyond.com>
- Developed and completed Flash TOMV schedule page
- Updated Flash journals page for usability
- Added search calendar for Flash events page
- Added "About us" and "About Corps II" non-Flash pages to website and fit them to the Flash template
- Converted Ren Hen Flyby videos into a Flash format to fit the new Flash website
- Created new video player for Schedule page

- Started incorporating Trail Stop videos into Schedule page
- Created "Tribes List" page in admin section to manage spelling and names of tribes. This page will also become a Flash page for the main website
- Started work to create artifact gallery for site
- Created functions to allow for multiple keyword searches within admin pages
- Updated internal reporting system
- Added 2 Lesson Plans to the system
- Added 750 Links to the system
- Fixed Excel file downloads from admin pages
- Noticed certain characters do not show up correctly in Flash; created script to convert all these characters to ones that do show up correctly
- Tried several other methods to visually depict the video queues
- Notable increase in traffic (Sep/Oct) with interface change from HTML to Flash

Website Statistics

Below are a series of graphs and charts to show the website use over the last year. A data table is included as well.



Month	Daily Avg				Monthly Totals					
	Hits	Files	Pages	Visits	Sites	GBytes	Visits	Pages	Files	Hits
Jun-06	3693	2907	601	198	2376	7.10	5947	18030	87217	110814
May-06	5221	4167	856	208	2435	18.54	6470	26560	129186	161880
Apr-06	4791	3882	658	244	2765	13.83	7343	19766	116489	143731
Mar-06	6731	5592	997	278	2995	24.02	8633	30937	173355	208680
Feb-06	7037	5994	2050	244	2778	19.81	6858	57407	167839	197053
Jan-06	5415	4617	771	232	2480	28.83	7194	23924	143141	167877
Dec-05	3279	2799	496	168	2066	10.89	5238	15376	86771	101660
Nov-05	5619	4594	862	223	2800	38.44	6700	25869	137827	168588
Oct-05	3960	3273	643	181	2672	13.48	5628	19959	101464	122765
Sep-05	414	262	35	4	92	3.17	126	1079	7869	12437
Aug-05	457	248	68	10	201	0.24	328	2138	7717	14180
Jul-05	170	111	56	3	57	0.37	110	1753	3467	5276

Hits	-- Server responses
Files	-- All files served (images, web, text)
Pages	-- PHP and HTML files served
Visits	-- Unique IP addresses, sampled every 30 minutes
Sites	-- IP addresses requesting content
GBytes	-- Gigabytes transferred from server to client

Information gathered from Webalizer 2.0 report

List All Participating Partners: (Include Federal Agencies and Native American participants as specified in original grant application or additional involvement since beginning.)

The Peter Kiewit Institute
University of Nebraska at Omaha
Army Corps of Engineers
IBM
ESRI

First National Technologies
Network Appliance
Red Hen Systems, Inc.

Detail Volunteers used: (Attach volunteer worksheet if volunteers are used during the project and CCS funds are used to directly support them.)

Number of Volunteers: 0 Total Number of Hours: 0

Rate/value used for cost accounting: \$ 0

(NPS value for volunteers is \$17.69 per hour.)

Justification for rate if different than NPS value:

Where and how have you acknowledged NPS support?

NPS is acknowledged on all published materials, printed or electronic, using links to the NPS website and/or NPS logos. Additionally, when tours of PKI are given to prospective students, visiting business leaders, and government officials, the NPS/PKI partnership is always highlighted as a stop on the tour, pointing out equipment purchased or donated for the project, as well as describing the support NPS has given through the collection and management of video tapes from the Corps II traveling exhibit.

