Grant partners

INSTITUTE of Museum and Library SERVICES

NJVID
STATE OF THE ART VIDEO ACCESS

THE STATE UNIVERSITY OF NEW JERSEY RUTGERS

WILLIAM PATerson UNIVERSITY

NJEDge.Net
New Jersey's Higher Education Network

New Jersey Digital Highway
Where History, Culture, and Learning Merge

VALE
Virtual Academic Library Environment
Why NJVid?

Digital video creates a multisensory experience that immerses the user in both information and context. A digital video lecture enables a student to “relive” a classroom experience, using video and audio cues to identify key concepts in the lecture and classroom discussion.
Why NJVid?

Problem:
The technical barriers in digitizing and making digital video available to users remains significant for smaller institutions. A statewide digital video portal, with collections and services that address the wide-ranging needs of lifelong learners, educators and students, is a compelling venture, but also a complex task with little room for costly errors.
Growing demand for streamed video

- Teaching and Learning user-created videos
- On-net support for commercial VOD
  - Institutional bandwidth problems
  - Quality problems with internet access
- Event streaming and archiving
- Statewide “channel”
  - Programming for local cable channels
  - Creation of statewide “higher ed” channel for FIOS, Cable
How did NJVid start?

- NJEdge.Net’s Educational Activities Task Force (EATF) reached out to fellow institutions to determine how many were using the same commercial video titles (and paying over and over again for the same thing).
- How can they stream these titles for easy access?
- What about professors who wanted to stream their lectures to students, but their institutions couldn’t support them?
- What if there was a centralized streaming server with programmers and support for the entire state?
How did NJVid start?

- EATF began to work with the Virtual Academic Library Environment (VALE).
- The VALE Digital Media Committee identified, approximately $7,800 in savings per institution for collaborative licensing of digital video from Films Media Group. We recognized that not only could each participating institution save significant technical overhead through shared video storage and streaming, but significant technical hurdles could be overcome for other institutions, such as public libraries and K12 schools, through the development of a statewide video portal.
Thus begins NJVid...

- We applied for an Institute of Museums and Libraries Services (IMLS) federal grant in 2006. Although, we didn’t get it, we were encouraged to reapply.

- We reapplied in 2007 after having fine-tuned our methods and objectives, adding locally-owned videos to our venture such as those offered by New Jersey Digital Highway (NJDH), and were rewarded with almost $1 million dollars to fund the initial hardware and support costs. These will eventually be taken over by the Consortia involved.

- New Jersey has a history of collaboration.
About NJEDge.Net

- **NJEDge.Net** ([www.njedge.net](http://www.njedge.net)) is a non-profit technology consortium of academic and research institutions in New Jersey. Though its deployment of advanced Internet technologies and digital communication, NJEDge.Net supports its members in their institutional teaching and learning; scholarship; research and development; outreach programs; public service, and economic development. In providing broadband statewide network, NJEDge.Net creates an environment for interoperability to facilitate productive use of technology across the academic enterprise. NJEDge.Net introduces emerging technologies and state-of-the-art networking to its partners in academia, government and industry for inter-institutional collaboration, scholarship and research.
About NJEDge.Net

- Statewide Higher Education Network
  - To provide a network platform using advanced digital communication and high speed regional optical network (RON) enabling connectivity to New Jersey K12 schools, libraries, teaching hospitals, and research agencies; to the private national educational and research network, Internet2; to other state networks and RONS
  - To transform discovery, learning and leadership through advanced cyber infrastructure
- Statewide collective buying power of the membership to achieve economies of scale
About NJEDge.Net

- Inter-institutional collaboration
  - To strongly engage our member community
  - To focus on innovation
  - To meet the state community needs through a federated model that recognizes the complementary strengths of all its partner members
  - To assist its members in their institutional teaching and learning; scholarship; research and development; outreach programs; public service, and economic development through its deployment of advanced Internet technologies and digital communication.
NJEDge.Net - Building Communities

- Organize statewide working groups
  - Distance Learning Academic Advisory Board
  - Coordinated Faculty Development Initiative
  - Educational Activities Task Force
  - Data Resources Group
  - Video Resources Group
  - Networking
  - Voice
  - Performing Arts Initiative
  - K-20 Initiative
NJVid – A Continuing Collaboration

- William Paterson University – took the lead in initiating the grant and developing the NJVid portal interface
- Rutgers University took the lead in creating and developing the workflow, repository architecture and authentication and authorization
- NJEdge.Net took the lead in providing a state-centralized digital video portal repository
- We will begin with our first three collections
Three types of Collections

Locally Owned Videos:

**Commons** access will provide access to a shared-by-all collection that can include such videos as Organizational events (lectures, speakers, Labor Day Parade) Re-enactments and historic events (constructing an historic bridge over the D&R canal) NJN videos, Oral Histories, etc.
Three types of Collections

Commercial Videos:

Content access will also provide a common platform for describing, storing and making commercial digital videos available for the participating institutions that purchase the rights. VALE, Virtual Academic Library Environment, will negotiate the rights for these videos and participating users can access these
Three Types of Collections

Lectures on Demand

Content access will also provide a common platform for accessing Lectures-on-Demand. These are educational videos that will make course lectures available for faculty and students to segment (create “virtual clips”), annotate, and make available within each participating institution. Lectures on Demand will primarily be used in the K20 educational environment although other participants that host educational activities and courses may also find it useful.
Video Specifications

- Video source – analog and digital camcorder
- Archival master is uncompressed video
- Streaming protocol is QuickTime H.264
- Progressive Download is Flash Video
- 29.9 frames/second, 640 x 480 resolution, data rate from 384 – 512 kb/sec
- Transcripts full-text indexed
NJVid New Jersey Video Portal

Workflow Management System

Input metadata

NJVid Commons

NJVid Commercial Video

NJVid LODs

Shibboleth A&A

Workflow Management System

Fedora Repository Service

Digital Object Repository (Fedora)

Video

Matrox Axio Encoder

Object XML

Digital Video Master
Depositing My Work in NJVid

* indicates required field

Title of Work*

Author(s)*

First Name: Grace
Last Name: Agnew
Role: author
Affiliation: Rutgers University
Dept: Technical and Automated Services

Publication Date* (YYYY)

Abstract or Summary

Category*

Sponsoring agency

Copyright Holder*  ○ Author  ○ Other

Add more sponsors ...
DESCRIPTIVE METADATA
(* indicates required element)

Type of Item *: MovingImage

Title Information

Title *
Type
Part Name
Part Number
Nonsort

Entry List (Title Info)
ka test 09-21-07

Change Remove Add More
Technical Metadata

Operating System

- Version
- Operating System

Format

- Type: Encoding
- Version
- Value

Compression

- Compression Scheme
- Compression Ratio: LZW, Uncompressed, Unknown, Wavelet
- Color Space

Sampling

- Sampling Unit
- Sampling Size
- Sampling Word Size
- Bits per Sample
Rights Declaration

Authority:
- FS
- GS
- IJS
- KA
- KA test
- NJDH
- RULIB
- Virginia Tech
- Local (free text)

Value:
This object may be copyright protected. You may make use of this object, but you are responsible for checking and verifying the copyright status.

Copyright

Status: copyright protected

Notice

Note

Availability

Status: Open
NJVID Portal @ NJEDge

- The architecture has 5 components:
  - Digital video streaming servers
  - Video repository storage
  - Fedora server
  - Shibboleth server
  - Web portal server
NJVid New Jersey Video Portal

Diagram:
- Storage Arrays
- VOD Servers
- Fedora Server
- Shibboleth Server
- Real-time Video Servers
Identity Management is key to NJVid

- Service may depend upon:
  - Institution you are from
  - Role (faculty, staff, student)
  - Enrollment in specific course
- One server needs to be able to verify this information for members of any institutions
- Requires “federated identity”
Key Concepts

• Establishing identity; levels of assurance
• Identifiers
• Authentication
• Authorization
• Directory services
• Policy and governance
• Federation
Shibboleth

- NJVid grant specified Shibboleth
- Technology for federated authentication and authorization; which depends upon identity/identifiers and directory services
- Allows a common server to authenticate users based on an institution’s own IdM and finds roles and attributes to make authorization decisions
- Maintain user privacy (temp opaque ids)
Alpha Implementers

Survey Results
Goals for the Survey

- Support continuous assessment throughout the process
- Insure that NJVid meets the needs of its organizational community
- Design NJVid to address identified issues and needs
Survey Designers

Assessment Leadership: Dr. Sandra Miller, WPUNJ

Assessment Consultant: Dr. Judy Jeng, NJCU

Also participating, Grace Agnew, Rutgers
Respondents

- Atlantic-Cape Community College
- Montclair State University
- New Jersey Digital Highway
- Rutgers
- Passaic Valley Regional HS
- Georgian Court
- Middlesex County College
- William Paterson University
Current Services

- 90% (9) of respondents offer DVDs
- 80% (7) of respondents offer VHS
- 30% (3) offer streaming digital video
- 40% (4) own a video server or will purchase (1)
- 10% (1) use FMG’s remote VOD server
- 80% (8) have locally owned videos (50% are in house use and 50% circulate)
- 10% (1) Plan a Lectures on Demand Service
Issues with Streaming Video

- 3 (40%) Users unfamiliar with DV playback
- 5 (60%) User computers unable to playback
- 5 (60%) Organizations lack bandwidth

Issues with Digitizing Video

- 2 Lack equipment to digitize
- 1 Lacks staff expertise
- 2 Security issues with shipping to Rutgers
100% (9) want Catalog records in local ILS for locally owned and commercial videos
80% (8) want to list Lectures on Demand in CMS
60% (5) have catalogers to create records
60% (5) want permanent digital rights for commercial videos
Rights for locally owned videos are not clearcut
Likelihood of Participation

- 60% (7) likely to participate in NJVid Commercial Collection
- 70% (5) would provide 1-25 Locally owned videos to the NJVid Commons
  - Local campus/organization events (5)
  - NJ history and culture (4)
  - NJ oral histories (2)
  - Independent films (2)
Likelihood of Participation

- 2 Organizations believe 1-5 faculty would use LOD
- 1 Organization believes that 6-10 faculty would use LOD
Likelihood of Use

- 80% (8 of 10) Organizations believe users somewhat likely to or very likely to utilize commercial video collection
- 60% (6 of 9) Organizations believe users likely to or very likely to utilize locally owned video collection
- 60% (4 of 7) Organizations believe users likely to or very likely to use Lectures on Demand
Collection Importance

- Locally owned collections
- Commercially owned collections
- Lectures on Demand

Almost a tie!
Alpha Implementer Survey

The Envelope Please…

NJVid Commons
Alpha Implementers

Expectations:

- Participate as a partner in the implementation of this video portal
- Participate as a partner in the implementation of using Shibboleth authentication
- Have key faculty and/or librarians participate in using the video portal
- Have key faculty and/or librarians participate in our assessments of using the video portal
Workgroups are:

- Commercial Video Collection
- Locally Owned Videos Collection
- Lectures on Demand Collection
- Web Site
- Outreach & Marketing
- Intellectual Property & Copyright
- Digital Video Production & Upload Training
- Authentication & Authorization
- Sustainability
Workgroups

- **Workgroups:**
  - Establish a chair
  - Next set of goals
  - Set up a date for the next meeting

- **NJVid Website – their workspace:**
  
NJVID and Other Existing Initiatives

- The portal repository will support:
  - Programming for a statewide video channel
  - 23 members program CATV Educational Access channels
  - Verizon FIOS will provide a channel
  - Multicast permits on-net simulcast
  - Members provide programs
  - Members create daily schedules
NJVid Links

- [http://www.njvid.org](http://www.njvid.org)
- [http://www.fedoracommons.org](http://www.fedoracommons.org)
- [http://www.njedge.net](http://www.njedge.net)
- [http://www.vale.org](http://www.vale.org)
- [http://www.njdh.org](http://www.njdh.org)

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