

Customizing DSpace Manakin for Educational Video Collections to Enhance User Experience

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» INTRODUCTION TO THE PROJECT

The STARLINK Streaming Video Library is a cooperative project between the State of Texas Academic Resource Link (STARLINK) Training Network <<http://www.starlinktraining.org>> and the Texas Center for Digital Knowledge (TxCDK) <<http://www.txcdk.unt.edu/>> at the University of North Texas, under the supervision of Dr. William E. Moen. The project uses DSpace v.1.5 Manakin to create a dynamic digital repository system to store, manage and present STARLINK's various video collections. The STARLINK Streaming Video Library <<http://starlink.southplainscollege.edu/starlink>> contains two collections of over 160 video titles available to STARLINK subscribers. This searchable and browsable library presents an enhanced user interface and seamless integration with STARLINK's existing web site. The project showcases DSpace as a low-cost and flexible platform appropriate for educational institutions like STARLINK to deploy a digital repository system for better resource sharing and user interaction. The project team encountered several challenges customizing DSpace to provide different types of access for STARLINK subscribers and non-subscribers, and using Manakin's robust interface design functionalities.

STARLINK is an acronym for State of Texas Academic Resource Link, <http://www.starlinktraining.org/>

STARLINK Streaming Video Library, <http://starlink.southplainscollege.edu/starlink>

TxCDK is Texas Center for Digital Knowledge, <http://www.txcdk.org/>

» CHALLENGES

CHALLENGES WITH STARLINK'S WEB-BASED VIDEO DELIVERY SYSTEM

- » Static display of list of videos
- » No search and browse functionalities
- » No user interaction features
- » Lack of authority control and consistent metadata practice

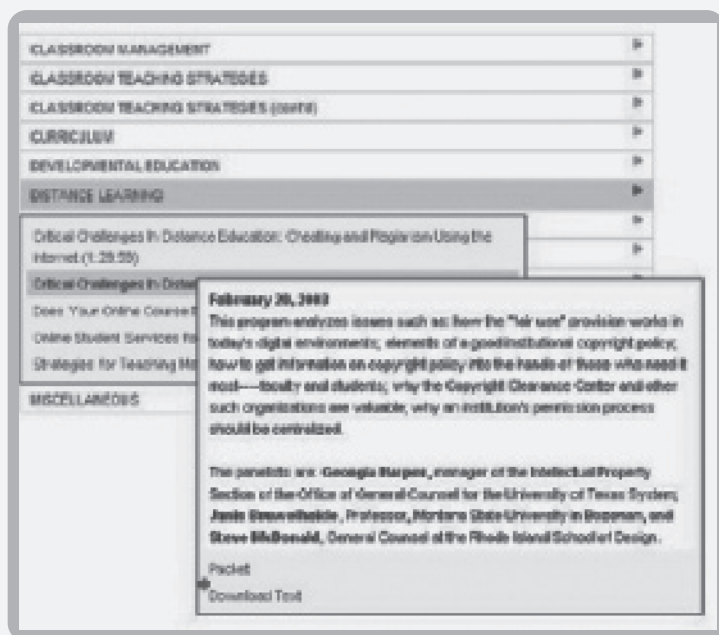


Figure 1: STARLINK's old video delivery system

» SOLUTIONS

SOLUTIONS TO STARLINK'S WEB-BASED VIDEO DELIVERY SYSTEM

- » Basic and advanced search functions
- » Systematic metadata design and authority control
- » Branding and interface design
- » Provisions of different access for subscribers and non-subscribers.

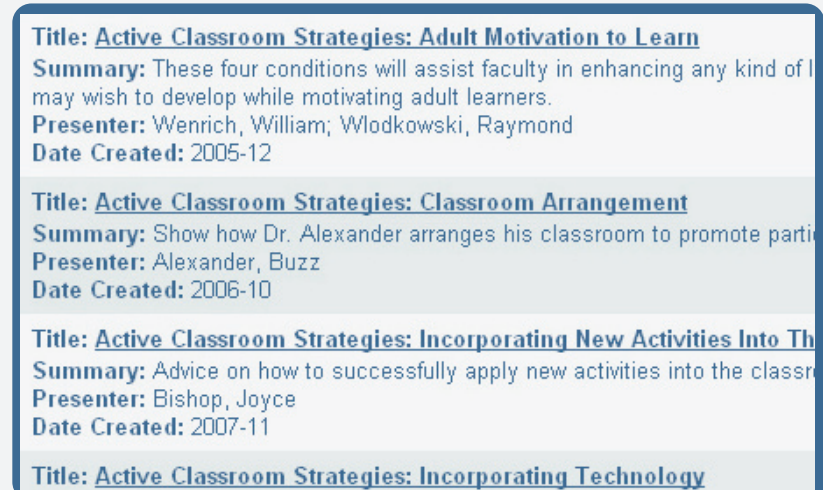


Figure 2: STARLINK's new video delivery system

» AUTHENTICATION AND ACCESS

Since STARKLINK offers its streaming videos on a subscription basis, a primary challenge was to use STARLINK's existing web-based authentication mechanism while providing seamless access through the repository to the actual video. Our solution involved three different servers. The STARLINK server hosts the web site for STARLINK Professional Development Network. This web site contains links to various video libraries as well as an authentication system for subscribers of the libraries. The second server hosts the Streaming Video Library that uses the DSpace 1.5 platform where the search engine, all metadata for the videos, and the user interface are located. The third server stores and presents the streaming videos.

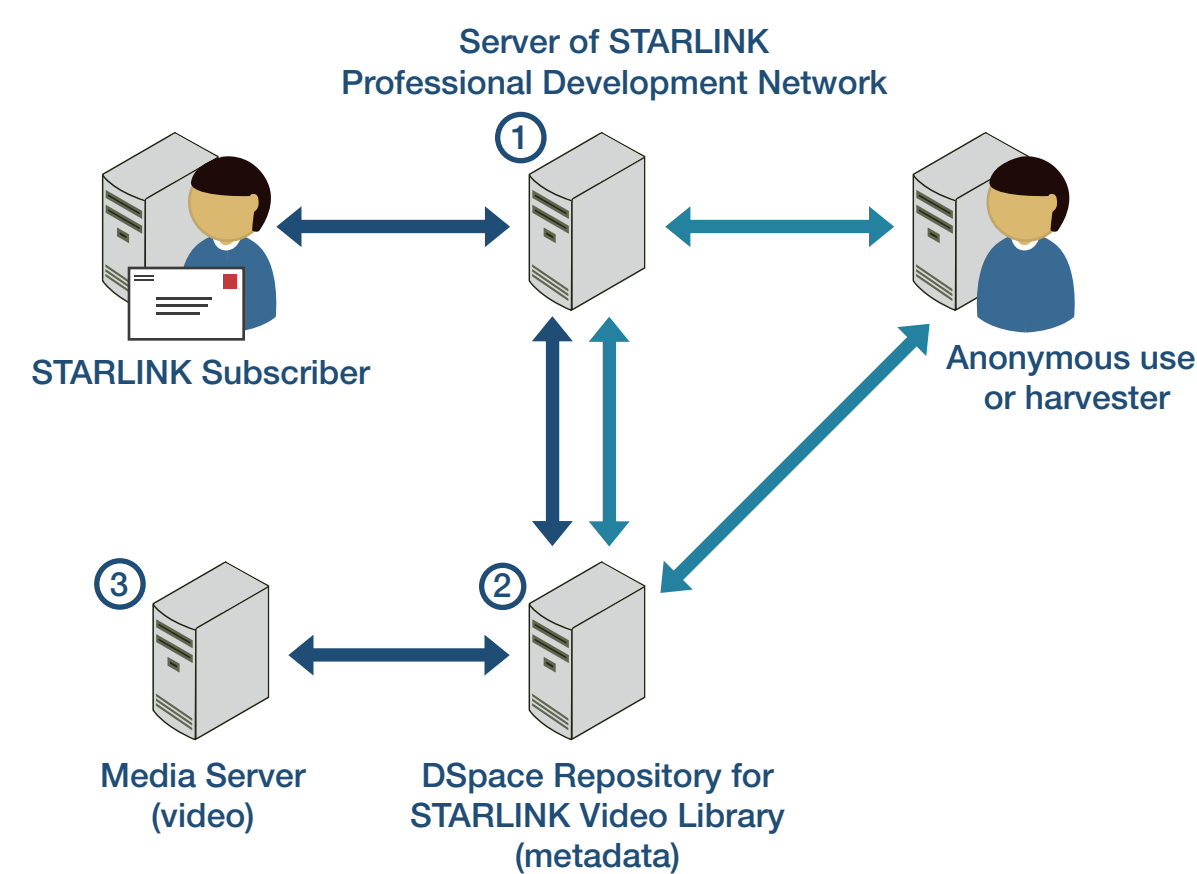


Figure 3: Authentication and Access Architecture

The project team implemented an authorization process that communicates with the STARLINK authentication system on the first server and provides access to the streaming video on the third server depending of the user role. Access to metadata is provided for all users and harvesters but access to actual video streams is restricted to the subscribers of this STARLINK service.

The authorization mechanism is adapted to DSpace and is based on restricting access to bitstreams (files that are stored with items). Video links are stored as bitstreams and only authenticated users are allowed access to them. All users who do not go through the authentication system may view the metadata describing the videos. This solution helps to expose the repository to a larger audience and may increase the number of potential subscribers.

» IMPLEMENTATION

Using controlled access to bitstream function to connect to streaming video file and any supplementary text, PDF, or Word files). Only subscribers have access to these linked materials, while non-subscribers have access to all metadata records in the Library.

Supplementary Print Packets (STARLINK subscribers only)	
Link to Video (STARLINK subscribers only)	
Title:	Critical Challenges In Distance Education: Cheating and Plagiarism Using the Internet
Presenter & Affiliation:	Hope Burwell English Instructor Kirkwood Community College William L. Kibler Associate Vice President for Student Affairs and Associate Professor Educational Administration and Human Resource Development Texas A&M University, TX, Jessica A. Keir Psychology Instructor Labette Community College Parsons, KS.
Summary:	Demonstrates strategies for detecting plagiarism and reactive methods of dealing with the problem. This includes defining the issue, scope, causes, and faculty and administrator's role to model and teach ethical behavior.

Figure 4: Implementation of bitstream function

» CUSTOM INTERFACE DESIGN

- » The use of Manakin allows for customization of the interface to retain or develop a unique branding identity (e.g., color scheme, logo, images)
- » Ability to change the organizational structure and add new features tailored to STARLINK's specific needs (e.g., addition of a custom Help feature).
- » Better browsing in terms of simple item display and browsing by titles, categories, topics, presenters, and date created
- » Better searching – simple search and the ability to expand advanced search
- » Better content delivery to enhance interaction and user experience with the STARLINK Streaming Video Library



Figure 5: Interface design

» CONCLUSION

We would like to take this opportunity to thank STARLINK for providing the funding, and for their support, patience and cooperation throughout the project. It has been an excellent learning experience for us to learn about and use DSpace Manakin to implement a scalable and interoperable metadata-driven digital repository. With this new system, STARLINK users have an interactive application to find, identify, select, and access STARLINK's valuable training videos. The digital repository platform allows STARLINK to enhance its capability to deliver more value-added interactive services to its subscribers. As an extensible system, new STARLINK streaming videos or collections can be easily added.

STARLINK Streaming Video Library can be found at: <http://starlink.southplainscollege.edu/starlink>