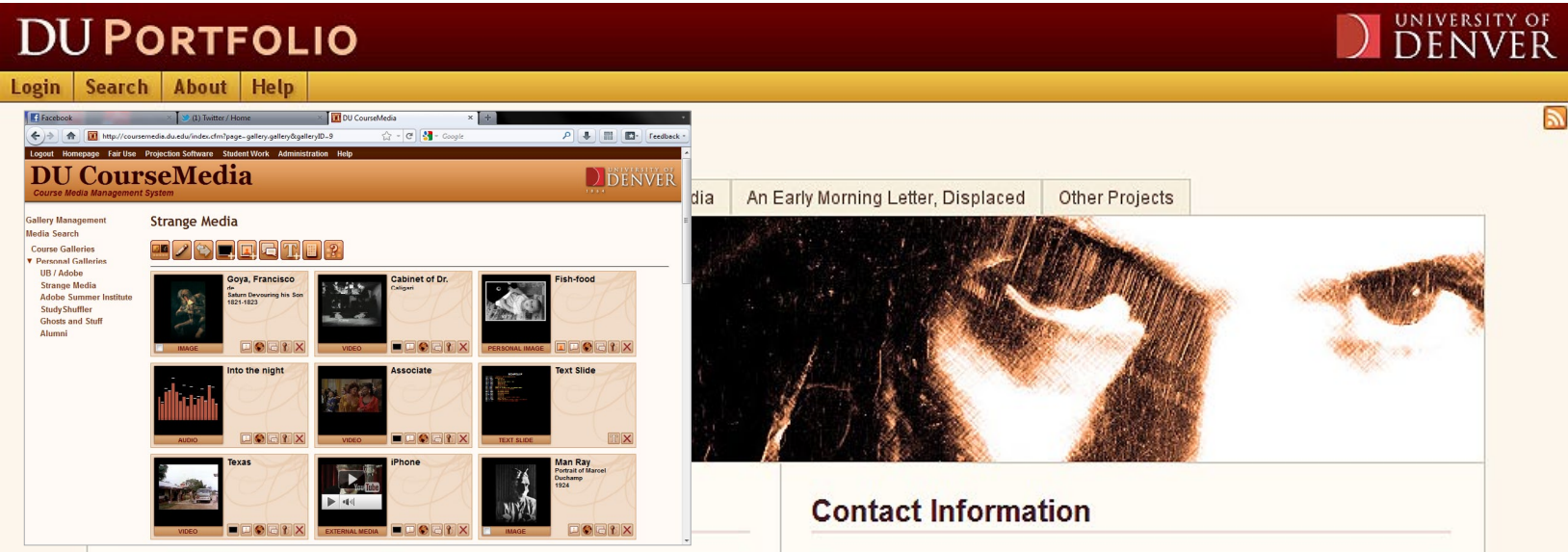




# University of Denver Empowering students for success



University of Denver  
Denver, Colorado  
[www.du.edu](http://www.du.edu)

The University of Denver empowers instructors and primes students for success using the Adobe® Flash® Platform

As the global economy changes, so do the challenges and opportunities facing students today. At the University of Denver (DU), faculty and administrators actively work to combine the best approaches to teaching and learning with the latest technologies to prepare students for success in the 21<sup>st</sup> century. Founded in 1864, DU encourages critical thinking, creative problem solving, and global experience to empower graduates to make a difference in communities worldwide.

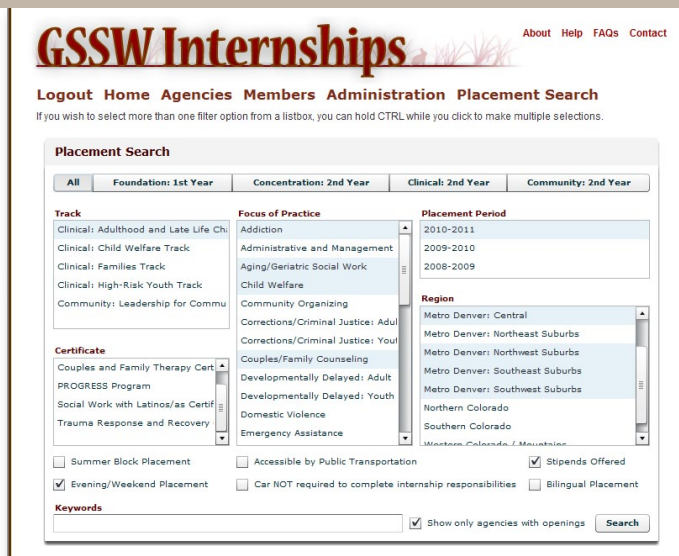
### Propelling graduates into a global economy

To help prepare students for success, DU is developing—via a collaborative process that involves students, faculty, and staff—a growing number of web-based systems to support teaching and learning for cross-campus use. Primary objectives are that these systems be easy to access and use, and that they provide the end user with an interactive and compelling experience through the integration of technologies and rich media that are common in today's businesses. To meet these needs, DU is using the Adobe Flash Platform—including the Flex® framework, Adobe AIR®, and Adobe Flash Media Server software—to create rich Internet applications (RIAs) that are now used by faculty and students across campus.

### Offering deeper insight and new efficiencies

The DU Graduate School of Social Work requires that students participate in field internships with public and private agencies such as schools, hospitals, mental health clinics, and a wide range of other clinical and community practice settings. Previously, to manage, track, and report on internship activities, the school used a small database that was only accessible to the internship managers.

DU used the Adobe Flash Platform to build and deliver the GSSW Internship Database as a RIA. Now, advisors can easily track interns placed at agencies, students can search for internships and other program information, administrators run customized reports, and agencies securely access the information they need.



### Challenge

- Enhance student learning experiences
- Improve collaboration among faculty, students, and industry
- Integrate more dynamic, rich-media content into coursework

### Solution

- Rich Internet application  
Using the Adobe Flash Platform, the University of Denver is developing rich Internet applications to improve faculty and student collaboration and to deliver courses filled with rich media across campus communities—offering instructors exciting new tools for teaching and students more impactful learning experiences.

### Benefits

- Equips instructors with flexible, rich-media classroom tools
- Improves collaboration among students, faculty, and industry
- Expands students' use of technology for richer communication
- Supports more dynamic, interactive learning
- Streamlines student and faculty access to coursework and student portfolios
- Enhances 21<sup>st</sup> century skills to support student success

"The previous system was extremely limited," says Joseph Labrecque, senior multimedia application developer at the Center for Teaching and Learning (CTL). "Students, faculty, and the hundreds of agencies offering internships had no direct access to it at all." The decision was made to replace this outdated system with a true web-based system that was open to all users, providing each with the level of access that they needed.

The Graduate School of Social Work turned to the CTL to create an application that would provide web-based access and a means by which the hundreds of interns and internships could be seamlessly managed. This innovative system, called the GSSW Database, was developed using a combination of Adobe Flex Builder<sup>®</sup>, Adobe Flash Professional, and Adobe ColdFusion<sup>®</sup> software. The system was fully integrated with other DU systems for efficient record management.

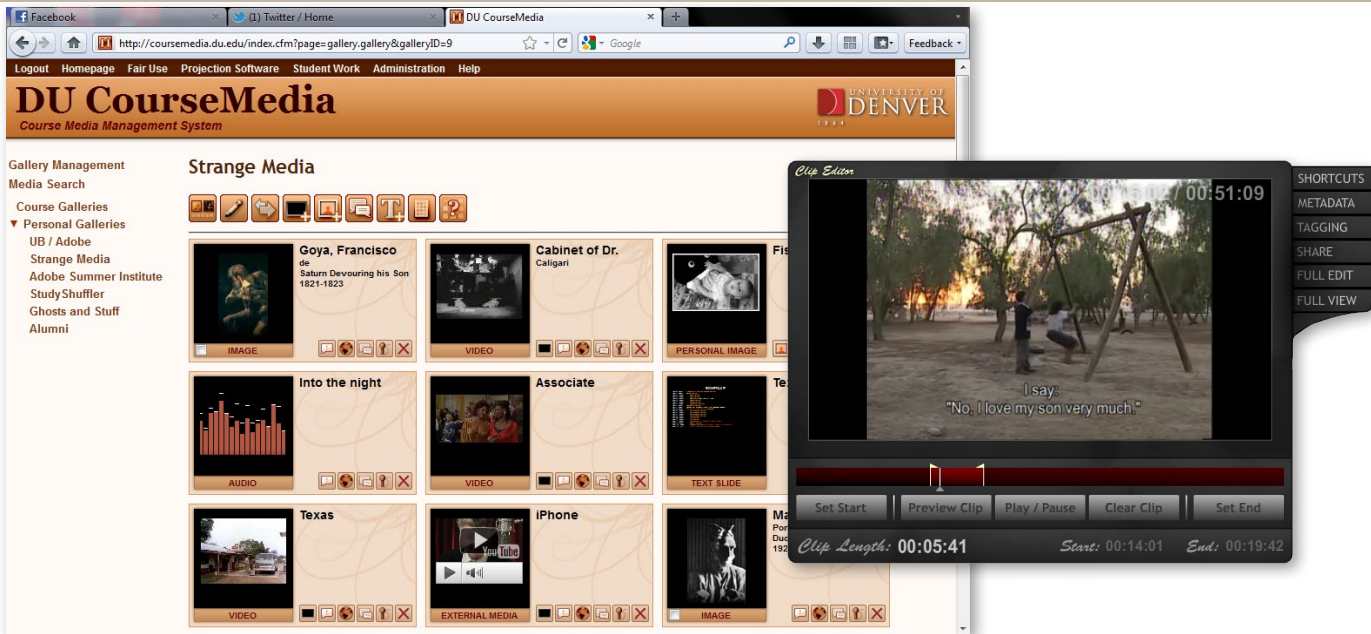
Advisors use the system to track interns placed at agencies, students to search for internships and other program information, administrators to run customized reports, and agencies to securely access the information they need. Several hundred students, more than 500 participating agencies, faculty advisors, and program administrators are able to access the application from anywhere, anytime. "Helping ensure GSSW students graduate with hands-on experience is vital to their program and to student success," says Labrecque. "The GSSW database, built on the Adobe Flash Platform, has improved the way in which this experience is managed and assessed, significantly decreased the time required to carry out these tasks, and greatly improved the processes for faculty, students, and the partner agencies."

### Delivering an integrative learning environment

Eight years ago DU's School of Art and Art History had thousands of slides used for teaching and found itself faced with the dilemma of the demise of the slide projector. The School contacted the CTL to collaborate on the development of a system that would provide web-based delivery of these images and, at the same time, streamline the way in which they could be managed by instructors. The goal was to preserve this enormous stock of visual assets and at the same time, provide instructors new tools for leveraging those assets for teaching and learning while providing a secure platform for delivering them.

To meet the needs of the students and faculty, CTL developers created DU CourseMedia<sup>™</sup>, an application that easily handles the wide array of digital media used by the school. The decision to leverage the Adobe Flash Platform was made because of its maturity, rapid development for multiple computing environments, and the ability to reliably deliver highly interactive experiences to users. Another important factor was that the ubiquitous Adobe Flash Player is already installed on 98% of the world's Internet-connected desktop computers.

DU's CourseMedia—created using the Adobe Flash Platform—easily handles the wide array of digital media used by professors to provide higher-impact learning experiences. Art history instructors can quickly consolidate images for their lectures, easily queue them up in the classroom, display side-by-side images for comparison, and search for images on the spot while teaching.



*“The GSSW database, built on the Adobe Flash Platform, has improved the way in which this experience is managed and assessed, significantly decreased the time required to carry out these tasks, and greatly improved the processes for faculty, students, and the partner agencies.”*

Joseph Labrecque  
Senior multimedia  
application developer,  
Denver Center for  
Teaching and Learning,  
University of Denver

DU CourseMedia is helping professors provide high-impact learning experiences. “We build web applications that enable instructors to deliver rich media that makes learning more exciting and accessible for students,” explains Labrecque. Adobe Flash Media Interactive Server delivers the CourseMedia audio and video files and also allows instructors to define and stream custom video clips. In addition, DU uses Adobe Flash Media Interactive Server security features to validate image delivery.

With DU CourseMedia, instructors can quickly consolidate images for their lectures, easily queue them up in the classroom, display side-by-side images for comparison, and search for images on the spot while teaching. “The system gives tremendous flexibility and it’s easy to learn and use,” says M.E. Warlick, Ph.D., director of the School of Art History and professor of European modern art. “We were so excited about it that we started telling our colleagues in other departments. Now, nearly 300 courses in departments across the university are using DU CourseMedia. It’s become a campus-wide phenomenon.”

The system includes a library—the Active Learning Object Repository Application (ALORA)—that is exposed through the CourseMedia system which features an integrated player and a full set of multimedia editing and tagging tools. With CourseMedia, instructors and students can build and share personal and course galleries that feature images, audio files, videos, websites, and more. ALORA is tightly integrated with Flash Media Interactive Server where every video, audio, and even image file catalogued in the repository is stored and delivered through either RTMP (audio and video) or HTTP (images). “ALORA holds 56,000 objects, an 88% increase in just two years,” says Labrecque. “Already, more than 800 instructors and nearly 15,000 students have been active users of the system since the most recent release. This quarter alone, we have over 320 courses and nearly 5,000 active users in the application.”

A new addition to CourseMedia is the CourseMedia Projection System, deployed on Adobe AIR, which works along with classroom projection systems to replace traditional slide projector setups. The CourseMedia Projection System offers a variety of enhancements including media type indicator icons, simple and advanced control panel views, modularized audio and video controls, and a flexible display system which tailors itself to whatever hardware it is installed on.

DU has adopted a number of teaching and collaboration initiatives based on the Adobe Flash Platform. The RIAs are being used across campus and beyond—and DU communities are now working more efficiently and collaboratively, while students are gaining critical 21<sup>st</sup> century skills.



The screenshot shows the DU Portfolio website interface. At the top, there is a navigation bar with links for Home, My Portfolio, System Admin, Instructor Tools, Assessment, Communities, Search, About, Help, and Log Out. The user is logged in as Joseph Labrecque. The main content area features a course page for 'ADOBE FIREWORKS CS5'. The page has a yellow header with the course title and a 'Student Uploads' button. Below the header, there are several sections: 'Description' with course details (ICT 4560: Web Graphics Production, 01/03/2011 - 03/11/2011), 'Webtools' (http://portfolio.du.edu/fireworks), 'Connect' (https://connect.du.edu/ict4560/), 'Overview' (This course introduces the fundamental concepts and techniques of digital graphics creation and image processing for both online publication and website interface design...), and 'Objectives' (At the end of this course, students will be able to:). To the right, there is a 'Course Grade Book' section with a 'View Grades' link and a 'Fireworks Feed' section with an 'AXNA Fireworks Feed Listing' showing a list of items like 'ColdFusion Telecommute Job in San Francisco, CA' and 'Magenta Web Template - Fireworks Png of the Week'.

#### Toolkit

Adobe Flash Platform. Components used include:

- Adobe Flex Builder
- Adobe Flash Builder™
- Adobe Flash Professional
- Adobe AIR
- Adobe Flash Media Interactive Server
- Adobe ColdFusion

#### For more information

[www.adobe.com/products/flashplatform](http://www.adobe.com/products/flashplatform)

Get off to a quick start with Adobe software. Join the Adobe Education Exchange to access free teaching and learning resources contributed by a community of educators and the Adobe Education Team. <http://edexchange.adobe.com>

"The CourseMedia Projection System can be deployed across Microsoft® Windows®, Linux®, and Mac OS X within specialized projection classroom setups, or even on instructor laptops for teaching in a single-projector environment. The system is very flexible and the tools we've built into the software allow users to have full control over what participants in the classroom see at any time, and how they see it. This goes way beyond traditional slide projectors," notes Labrecque.

Other applications are providing additional learning opportunities for students while saving valuable time for instructors. The DU Portfolio Community application offers students, faculty, and staff an online system for storing and sharing personal work and community materials such as course and committee work. The application also has an academic program assessment component which provides an efficient way for students to submit documents and other artifacts for online assessment. Flash Media Interactive Server provides a mechanism within DU Portfolio Community for students to record and submit comments in numerous languages in response to digital materials presented by instructors for language assessment purposes. According to Labrecque, in the past year more than 10,000 users have logged into DU Portfolio Community, which houses and delivers nearly 130,000 portfolio objects.

#### Preparing students for the 21<sup>st</sup> century with innovative web-based teaching & learning tools

Students at DU are supported by a university that understands how rich-media technology can offer them more profound learning experiences. "We are delivering exceptional user experiences to DU students and faculty," notes Labrecque.

DU communities are now working more efficiently and collaboratively, while students are gaining critical 21<sup>st</sup> century skills. Equally important, these systems and tools help instructors infuse the educational environment with creative new approaches to teaching—and exciting new ways for students to learn. "With more interactive courses, students are more engaged in learning," says Labrecque. "They are seeing how to communicate visually and learning what's possible with new tools and technologies, helping them move forward with the skills they need to succeed."



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