



NBC Universal

NBC News uses the Adobe® Flash® Platform to deliver dynamic media in classrooms worldwide, revolutionizing the educational experience for teachers and students

NBC Universal

www.nbclearn.com

Industry

Media and publishing

Challenges

- Integrate 21st century technology into the classroom
- Digitize NBC News Film & Video Archives
- Engage future audiences

Solution

- eLearning

NBC Learn uses the Adobe Flash Platform to deliver dynamic content to classrooms, including equally compelling online and offline experiences and tools to help teachers inspire students. NBC Learn also leverages Adobe SiteCatalyst®, powered by Omniture®, to understand consumption of educational content in order to more closely align resources to curriculum.

Results

- Condensed application development time by 60%
- Reached an additional 50% of educational market
- Implemented in schools in 40 countries
- Experienced virtually no support issues
- Provided 21st century technology into classrooms despite resource limits
- Integrated seamlessly into global enterprise architecture
- Gained real-time understanding of institutional adoption

While NBC dominates the news industry at the broadcast level and offers outstanding online capabilities, like all media outlets, it strives to gain greater attention from the millennial generation. Teens and preteens have clearly shifted away from the information consumption habits of their parents, particularly as traditional classroom models feel less relevant to millennials.

NBC Learn, the education arm of NBC News, seeks to realign that shift in engagement with groundbreaking digital media tools that transform the way teachers develop learning materials and the way students consume knowledge. As learners increasingly shy away from textbook learning, teachers need tools to easily develop curriculum in ways that will engage students and capture their imagination. The NBC Learn solution is predicated on the fact that students see themselves as visual learners. They express themselves in multimedia and expect their education to be delivered in kind.

The innovative NBC Learn solution, built and deployed on the Adobe Flash Platform, is an equally compelling tool for teachers who are already integrating technology into the classroom, as well as teachers who have yet to embrace 21st century teaching techniques. The system extends the massive infrastructure of NBC's enterprise architecture, including the Adobe Flash Media Interactive Server and Akamai managed content services, to bring all video produced by NBC News to classrooms worldwide. Trials of the solution have already been implemented in schools in over 40 countries.

"Video is and will become an increasingly more important component of educational instruction," says Adam Jones, senior vice president NBC News. "We see an enormous opportunity to engage youth in the classroom and to help support their learning needs. If yesterday's student could make notes in his or her textbook, then today's students should be able to make notes on his or her videos. Mainstream news organizations need to engage and meet the needs of their future audience and a large part of that audience is currently in school."

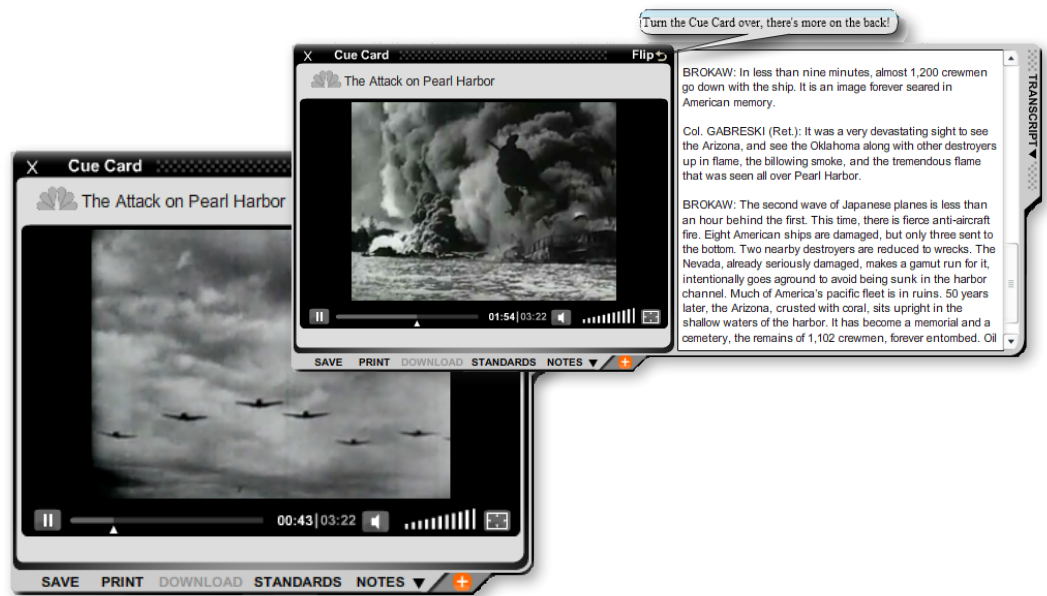
NBC Learn is a groundbreaking service, according to Michael Levin, director of digital services at NBC Universal. Levin has helped with the implementation to hundreds of schools and has made presentations to scores of educators and reports that feedback from the educational community has been overwhelmingly positive.

"The service adds real-world context to issues and topics being addressed in the classroom," says Levin. "It answers the age-old question students ask, 'why does this matter to me?', by virtually transporting them to the moment in time when events actually occurred."

Feeling the visceral pitch of a speech by Martin Luther King or experiencing the real-time drama of the Berlin Wall coming down not only brings the element of truth to learning, it make lessons come alive. From a practical standpoint, catching a four-minute news clip narrated by an NBC journalist is a much more effective way to spur interactive classroom discussion than reading a passage in a textbook.

Levin also sees the tool being used outside the classroom. "We visited a high school library where we saw students using NBC Learn as a research tool for their final projects. They were embedding data and videos clips into their papers and into PowerPoint presentations, and were printing out the resources' metadata to use as citations in their reports," he says. "It was amazing."

NBC Learn's Cue Card, built on the Adobe Flash Platform, helps teachers deliver a century of world events, documents, and images with easy-to-use, customizable online tools that make learning an irresistible experience. Students experience content online via NBC's Cue Card media player, developed using the Adobe Flash Platform, or offline using the Adobe AIR desktop application.



"If we hadn't been able to get this product to market as fast as we did using the Adobe Flash Platform, we would have lost 12 months of market adoption."

Adam Jones
Senior vice president, NBC News

Perfect match of content and technology

A year of conversations about how to deliver instructional resources in the most compelling way resulted in NBC's patented technology called Cue Card— a unique, cross-platform Adobe AIR® desktop application that emulates the NBC Learn online experience. It eliminates the bandwidth constraints many schools face, and mitigates the challenges facing schools with only a few computers in classrooms. The system runs on Apple Mac and PC systems, making it possible to reach a broad audience.

Already, teachers are using the service to support a wide variety of teaching. For instance, a teacher creating lessons about World War II can go to www.archives.nbclearn.com to see a list of all the content about that subject. They might select a news clip or a historical document about Pearl Harbor, and then click to download. The resource downloads into the Adobe AIR application and begins to play on the hard drive within the AIR application in the Cue Card format. Using Cue Card is so intuitive, and the entire solution is so stable, there have been very few support issues while implementing—a rare case when rolling out new technology.

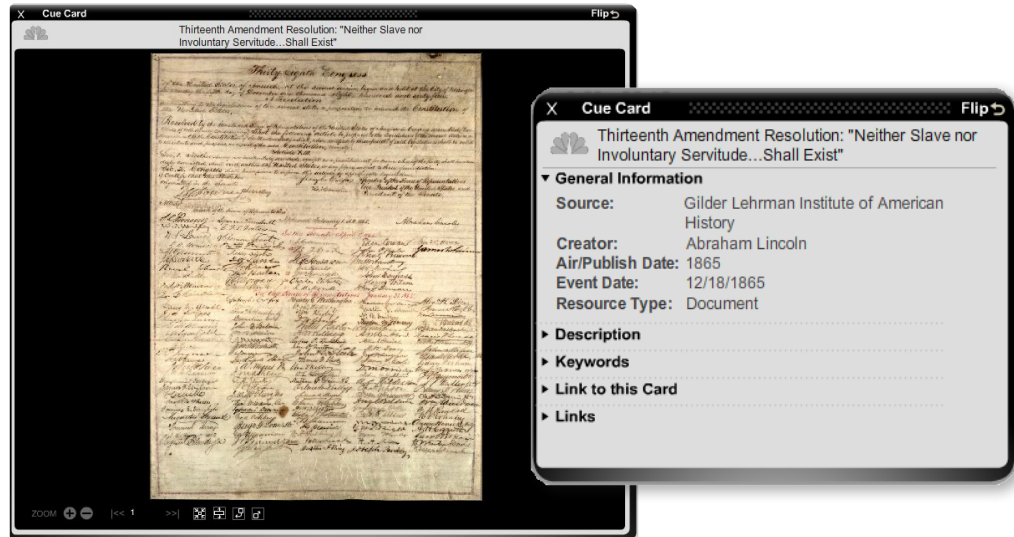
Levin says that what really impresses users is when they click to flip a Cue Card over, which caps off "the most elegant download solution for classroom use educators have ever seen," according to customer feedback. The back of each card contextualizes the content with metadata including time, date, source, an annotated description, keywords, clip length, and more.

The desktop Cue Card application is as flexible as it is powerful. The format can be enlarged for projection, the application can handle an unlimited number of downloads, and an offline library keeps content automatically saved and organized the way the user likes. Import and export features enable teachers planning lessons at home to save resources onto USB storage media and bring it to the classroom. Users can bookmark content, and embed resources and hyperlinks into PowerPoint presentations and Word documents.

The entire solution integrates with a digital rights management (DRM) system that protects property rights and manages the subscription service. When a subscription expires, the video will cease to play, eliminating the cumbersome task for schools to wipe resources from hard drives. The DRM functionality is a proprietary algorithm, but is road mapped to integrate into Adobe LiveCycle® Rights Management ES.

Another requirement of the Cue Card player was that other types of media had to be available through a single source, such as historical documents, images, charts, and graphs. "In partnership with the Gilder Lehrman Institute of American History, the Flash Platform enabled us to resurrect historical documents, images, and letters from centuries ago and enable students to interface with them in ways never before possible," explains Jones. "They can see what the original handwriting looked like on the Thirteenth Amendment, can pan around it, zoom in to see the texture of ink on parchment, go full screen, and can also read its full text transcription." The imaging work on non-video resources was done using Flash Professional in Adobe Creative Suite®.

Using Adobe Flash technology, Cue Card emulates the NBC Learn online experience. Educators appreciate the added depth of the application. Users simply click to flip a Cue Card over and the back of each card contextualizes the content with metadata including time, date, source, an annotated description, keywords, clip length, and more.



Systems at a glance

- Adobe Flash Platform. Components used include:
 - Adobe AIR
 - Adobe Flash Professional
 - Adobe Flex™ Builder™ 3
 - Adobe Flash Media Interactive Server
- Adobe Creative Suite
- Adobe SiteCatalyst, powered by Omniture

Fast to market, or no sale

NBC previously had a download player, but it only worked on PCs, eliminating potential sales to Apple Mac computer users and hampering NBC in meeting its market goals.

"We anticipated a 5- or 6-month development cycle, and it was done in two months," says Jones. "It's one thing when you talk about condensing development time by 60%, but rapid development becomes absolutely critical in the education market. If you don't have a product ready for the start of the school year, customers say 'no thank you' and hang up. If we hadn't been able to get this service to market as fast as we did using the Adobe Flash Platform, we would have lost 12 months of market adoption," says Jones.

Today, schools use the full range of technology in the classroom, from the abacus to multi-touch devices, notes Jones, but generally, classrooms are still at the lower end of the technology adoption curve. Without a desktop solution as a companion online solution, approximately half the school population would not be able to access NBC Learn. "Being able to offer a solution to those additional 25 million students made our decision to build an offline download solution very easy," says Jones.

It took approximately 60 content, editorial, and technology experts and an enormous effort to digitize hundreds of thousands of transcripts and videos, as well as create the metadata and context around subject areas. But the actual development team consisted of 20 people working in two parallel teams on the online and offline implementations. The online version uses Adobe ActionScript® 3, the powerful, object-oriented programming language of the Flash Platform, and the offline version uses Adobe AIR technology. The two implementations tie in to the DRM system and share the same subscription components.

Since launching the new eLearning solution, NBC Learn has also been able to measure the actual consumption of educational content in real time with Adobe SiteCatalyst, powered by Omniture, NBC Universal's chosen enterprise analytics platform. Adobe SiteCatalyst provides deep insight into user behavior so NBC Learn can understand content usage in order to improve the institutional adoption of multimedia resources in a learning environment and measure the impact on student engagement. For example, NBC Learn can integrate resources into online teaching lessons and assessment, and track how much content is consumed by teachers and students.

The effectiveness of Cue Card is already proving important, as NBC considers expanding the technology to other portals and platforms, including mobile, social media, and gaming. *What's Your iCue?* (www.nbclearn.com)—an online game that also makes use of the NBC News archive—was the first video trivia game inside Facebook, and was very successful. "Along with our technology partners, we envision tremendous potential for extending the use of the Adobe Flash Platform beyond education to other mass markets," says Jones.

For more information

www.adobe.com/flashplatform/



Adobe Systems Incorporated
345 Park Avenue
San Jose, CA 95110-2704
USA
www.adobe.com

Adobe, the Adobe logo, ActionScript, Adobe AIR, AIR, Creative Suite, Flash, Flex, Flex Builder, LiveCycle, Omniture, and SiteCatalyst are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries. Apple and Mac are trademarks of Apple Inc., registered in the United States and other countries. All other trademarks are the property of their respective owners.

© 2010 Adobe Systems Incorporated. All rights reserved. Printed in the USA.

91025610 8/10 1.1