

Student Presentations via Streaming Content Capture

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Abstract

Professors at Oxford College of Emory University extend class-capture technology beyond lecture recording to the capturing of student presentations and projects. This content capture process creates instant feedback to the producing students about their content expertise and communication effectiveness as well as a self-reinforcing loop that motivates students to perfect their oral presentations.

Introduction

Prominently included in the mission statement of Oxford College is the phrase “...the curriculum and the co-curricular activities of Oxford College are designed to teach students to read perceptively, think independently, communicate clearly, and embrace responsible citizenship.” In particular, the goal of students achieving the skills of clear communication is achieved through both written and oral exercises throughout the program of the college. The oral element is most prominently addressed using individual and group presentations within many varied courses.

While effective at demonstrating content expertise and exercising oral communication abilities, classroom presentations – both group and individual – also present pedagogical challenges to the professor and the course. A substantial amount of class time must be allocated not only to each individual or team presenter but also for setup and transition time between presentations. This cumulative expense of time is costly to the syllabus of the course in constraining the quantity of material that the professor is able to include across the span of a semester. Furthermore, the fleeting nature of class presentations requires hasty assessment by the professor and questionable pedagogical value to the non-presenting students.

To address these challenges while retaining the value of student oral presentations, a selection of Oxford College professors are experimenting with the student use – outside of class – of lecture capture technology. The audio and video of the captured presentations are then published via streaming video for student viewing and learning as well as professor review and assessment. Using content capture technology maintains the practice and benefits of oral presentations while liberating the previously allocated class time for other pedagogical uses.

Technology Infrastructure

Oxford College Information Technology (OCIT) researched several different content capture products prior to implementing the Camtasia Relay system created by the TechSmith Corporation. Camtasia Relay is appealing to Oxford College due to these properties:

- Software based system
- Quick and easy client installation
- Intuitive user interface
- Server based license
- Windows, Macintosh and flash drive compatibility
- Easy to use
- Automatic file formatting (multiple formats), web publishing and link address notification
- Integration with web, Blackboard and iTunesU
- Portable and offline recording options

Following a successful pilot program including faculty focus groups, instructional videos and training sessions, Camtasia Relay was fully licensed and installed.

The server computer hosting Camtasia Relay is a Hewlett-Packard DL-320 G5p with dual 2.13 GHz processors, 2 GB RAM and 149 GB hard drive. The operating system for this server is Microsoft Windows Server 2003 SP2. The Camtasia Relay server processes the captured videos into the user selected video formats and publishes the final videos to a separate media server. The media server is also a Hewlett-Packard DL-320 G5p with dual 2.13 GHz processors; 2 GB RAM but with a 292 GB hard drive. The operating system for the media server is Red Hat Linux 4.

User accounts for the Camtasia Relay server accessed via the Camtasia Relay client software are authenticated via Emory University's LDAP system. However, the user accounts must be independently activated for Camtasia Relay.

The Camtasia Relay client software is available for Apple Macintosh OS 10.4 – 10.6, Microsoft Windows XP, Vista and 7; and a portable recorder is installable on flash drives. All client software is downloaded locally from the college Camtasia Relay server. All public use workstations in student computer labs, classroom facilities, loaner laptops and the library include in the standard disk image the Camtasia Relay client. Students, faculty and staff are permitted to download and install the client on their individual workstations at their discretion.

The Camtasia Relay client computer requires a microphone to capture the presenter's voice and optionally, a webcam if the presenter's image is desired. An inserted thumbnail of video or a photograph of the presenter's face adds to the quality of the viewer's experience.

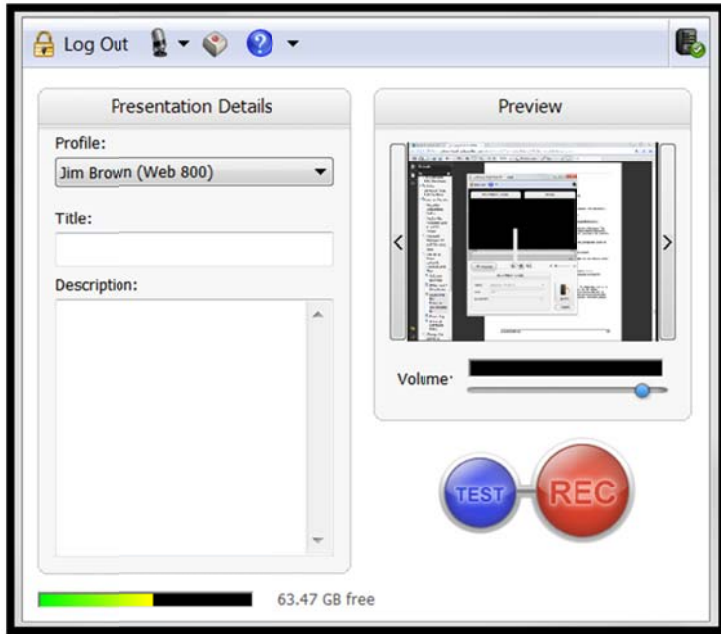
Video file formats supported by Camtasia Relay include...

- Camrec
- MP4
- XAP
- MP3
- AVI

- RMVB
- WMV

Overview of the Recording Process

When the presenter is ready to record the presentation and all the display materials to be used are perfected and displayed, Camtasia Relay is launched on the presenter's computer. Camtasia Relay requires a login that connects the user to particular profiles of preferences and settings. The user is then presented with this window:



At this step, a uniquely identifying title and description are entered, microphone volume is adjusted and the user selects from available profiles. The profile selections allow the presenter to choose among different resolution settings, video file formats and publishing destinations. The Camtasia Relay administrator defines the profiles available to each user.

When the red “REC” button is clicked, the presenter is given a 3 second countdown after which this window minimizes and recording begins. Everything that is displayed on the computer screen and heard by the microphone is captured from this point forward. The presenter proceeds with the presentation exactly as if it was being performed for as live audience. In fact, Camtasia Relay can be used to record live audience presentations equally well.

At the conclusion of the presentation, the Camtasia Relay taskbar button is clicked and the red REC is used to terminate the recording.

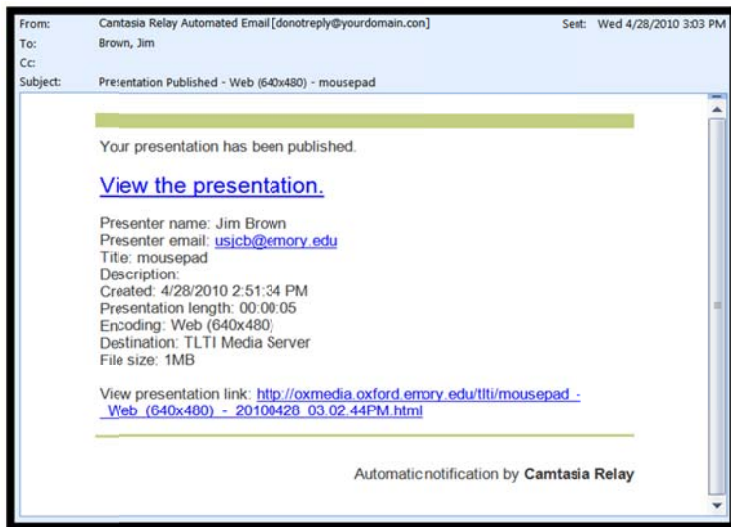
The following window is presented:



This window allows the presenter to quickly preview the captured audio and video prior to publishing and to trim the endpoints of the clip. Trimming is recommended to remove screen actions that are irrelevant to the actual topic of the presentation such as moving windows around, launching PowerPoint, maximizing the first slide, etc. Ideally the video begins exactly at the starting point of the presentation. With Camtasia Relay itself, trimming the end points is the only editing action available.

When the presenter is pleased with these details and the audio/video as previewed, the submit button is clicked and the Camtasia Relay client uploads the video to the Camtasia Relay server. Alternatively, the user may click the discard button to delete this recording and return to the previous window. If submitted, the Camtasia Relay server renders the video into the selected video format, moves the file to the media server, creates a web page to host the video and emails the web link to the presenter. The presenter may then utilize this web link in any manner as desired.

This automated email resembles the following:



Student Use of Camtasia Relay

To make this technology available for capturing student presentations, Oxford College Information Technology activated the login accounts for all the students in the participating professors' classes and taught 20 minute sessions to each class about the access, installation and use of Camtasia Relay.

The students formed into research, authoring and presentation teams in traditional manners and proceeded with developing their topics. Prior to deadline, the students were expected to author an academic paper on their topic and compose visuals to aid communication. The student groups were able to rehearse, and record their presentations as much as desired. The immediate review feature of Camtasia Relay allowed the students to evaluate their own performance and repeat the presentation until they were satisfied. The final presentation was submitted by the students to the Camtasia Relay server and published as a streaming video. The web address for the presentation was forwarded to the professor for review and grading.

An example of a Camtasia Relay recorded student group presentation may be found at: [http://oxmedia.oxford.emory.edu/student/Ozone_2.0 by Michael Asima Ellen and Lea - Web \(800x600\) - 20091213_04.47.06PM.mp4](http://oxmedia.oxford.emory.edu/student/Ozone_2.0_by_Michael_Asima_Ellen_and_Lea_-_Web_(800x600)_-20091213_04.47.06PM.mp4)

The web links for all the group presentations may be consolidated and archived by the professor into a class site. Longitudinally, multiple class presentation recordings may be assembled to help students learn from classes of previous semesters and years.

In these classes, the professors were able to discontinue using class time for present these student presentations, offer them online to other students and grade them at the professor's leisure.

Follow-up

With this successful pilot program complete, desired follow-up activities include:

- Interviewing the students and faculty to determine their perceptions of the effectiveness of performing online presentations compared with traditional presentations for reinforcing content expertise.
- Interviewing the students and faculty to determine their perceptions of the effectiveness of performing online presentations compared with traditional presentations for reinforcing oral communications skills.
- Beginning a library of online student presentations from various semesters and disciplines.