

Online Video Platforms

Scenario

Duncan, a sophomore majoring in microbiology, needs one more communications course to fulfill his core requirements, and he chooses a new course called “Video as a Communication Tool.” The university has recently implemented a new online video platform (OVP), which allows faculty and students to upload video and specify who can access it. The first day of class is a hands-on practicum, which begins as students sign in to the new platform. They upload video from an array of devices and explore features, including an automatic closed-captioning service. The first assignment involves using video to practice a live presentation. Each student prepares a brief safety lecture on any activity and records it in a campus multimedia studio. As Duncan records his lecture, he uses the studio’s electronic whiteboard, drawing diagrams to illustrate his snowboarding safety tips. When he uploads his recording to the OVP, he notices a teammate has already posted her finished work. At an off-campus coffee shop later that afternoon, Duncan uses his laptop to view and critique his teammate’s lecture on how to safely load a dishwasher. His comments include, “hilarious and informative” and “try not to shift from one foot to the other.”

In a group project a few weeks later, students interview people about their pets. Two people on Duncan’s team use their phones to record video, a third uses a tablet, while a fourth uses a GoPro. Input from all the devices uploads without difficulty. The team is able to use the built-in OVP editor to trim sections from raw footage where desired, but for trickier problems such as the shaky images from one contributor, the team must use third-party editing software.

The final course challenge is to create a short video explaining a process associated with one’s major. Duncan uses a microscope in the lab where he works to capture video of cell mitosis. He saves the microscope output to the team share on the OVP. Then, working on his laptop, he uses the integrated personal capture software to record a voiceover for the microscope images and for several diagrams from his laptop. The result is a high-scoring video effort that Duncan is pleased to add to his student portfolio.

1 What is it?

An online video platform (OVP) is a **cloud-based solution for the storage, management, and delivery of digital video**. Some colleges and universities rely on well-known OVPs such as YouTube or Vimeo to host educational video content, but such consumer services don’t provide the integration and control that are often needed in a higher education context. An OVP for a college or university should integrate with systems including identity management and the LMS. It needs to provide easy access to media from anywhere, including support for distance learning, which means stored content must be searchable and seamlessly transcoded and delivered to a variety of devices. The OVP should offer fine-grained control over media content, ensuring compliance with regulations such as FERPA and HIPAA and allowing institutions to respond quickly to concerns about copyright or intellectual property.

2 How does it work?

OVP features vary, but the core functions that allow the upload, conversion, storage, sharing, and playing of video are essentially the same for all platforms. The OVP delivers video content to viewers in accordance with access limitations specified by the media owner. To use the platform, a video creator logs in and uploads a video, which could come from a video studio, a webcam, a mobile device, an electronic whiteboard, or even a drone. The OVP **serves as a central repository for the content and provides content owners with the ability to control access to the work**. Automatic transcoding ensures that files received in one format will be converted to another file type if required for viewing. Some platforms provide sophisticated search functions. Automatic speech recognition can search for spoken word strings in videos, and optical character recognition can identify written words that are pictured in videos. Some systems also offer analytics that provide data about viewing, such as audience size and drop-off rates.

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3 Who's doing it?

A number of companies have emerged from the lecture capture arena to join other vendors in offering OVPs, including Kaltura, Panopto, Techsmith's Relay, Instructure's Arc, Sonic Foundry's Mediasite, and Echo360's Active Learning Platform. Some institutions have built in-house platforms, and open-source options such as Opencast are also available. At Sacred Heart University in Fairfield, Connecticut, an Echo360 platform allows students to attend class when bad weather shuts down the campus. Students log in and watch video lectures on snow days or whenever they wish, using the system to insert notes or mark the slides that they find confusing. At the University of British Columbia, an initiative to improve students' ability to do live presentations gets support from the Panopto video platform. The system allows 400 students to record and upload presentations for feedback from instructors and peers in a 48-hour window. At John Hopkins University, the Graduate School of Engineering uses the 3PlayMedia service to add closed-captioning to the video courseware managed by Kaltura. The fully online master's program offers thousands of videos, with about 100 new ones added per week. Videos for a course are closed-captioned whenever a faculty member or a student enrolled in that course makes a formal request.

4 Why is it significant?

An OVP can anchor an institution's video management strategy. It reduces the chance that faculty will put their own or student content on a public service that could invoke FERPA issues and other concerns. The platform can limit liability by providing granular control of access and clarify questions of who uploaded which multimedia files and when it was done. An OVP provides a distributed online solution for storage of videos, and it offers adaptive bitrate streaming, which detects the bandwidth and CPU of a user's device and calibrates the video stream accordingly in real time to deliver the best playback quality regardless of connection speed or device. These platforms empower students and faculty to produce and use video as a learning tool. In countries where YouTube and other public services are blocked, an OVP may provide scholars with access to video content that would otherwise be unavailable.

5 What are the downsides?

Because OVPs represent a new cost to institutions, a case must be made for why the investment is worthwhile, which might include avoiding other costs later. Choosing a

platform can be time-consuming. Large commercial platforms provide a wide array of services, but they can be costly. Open-source options are available at low (or no) cost, but they may come with limitations on curation and sharing. The rise of video as a medium for instructional content presents barriers to students and faculty with disabilities if the video isn't properly captioned, and institutional efforts to ensure accessibility have not kept pace with the rate at which video is produced and distributed. While OVPs are increasingly adopting open standards, switching platforms can present new costs and nontrivial work. Installing and managing such a platform can require specialized staff skills, which may not be available at all institutions.

6 Where is it going?

OVPs are a relatively new type of system in higher education, and the contours of the market are emerging. Platform providers are working to create an experience that closely matches that of YouTube, and major players are focused on the easy upload of video from any source—lecture capture, smartphones, and others. Efforts are directed toward integration with other systems, such as scheduling and library systems, and toward greater convergence in functions such as archiving, warehousing, and curating. Some vendors are actively working to incorporate accessibility, not just with captioning but with additions such as a secondary audio track that includes narration of the visual content. Uptake of the IMS Caliper Analytics standard will provide a bigger window into analytics for OVPs, including predictive analytics.

7 What are the implications for teaching and learning?

An OVP can support a range of learning activities, such as oral examination and exam preparation. With an OVP, instructors can incorporate video knowing that the content will be delivered reliably and in the necessary format. Because students control playback and repetition, they can review as often as necessary to absorb the information. Some systems allow faculty to identify which sections of a video are watched repeatedly, pinpointing the portions that are most confusing, and some platforms include analytics tools. OVPs can help an institution investigate the pedagogical efficacy of video content in higher education, including factors such as "video fatigue" and drop-off rate. Multimedia fluency is becoming an essential competency, and OVPs can help producers and consumers be discriminating amid the flood of educational video content.