

Charles University, Prague - network cameras bring lectures to students at home

"Students now have the opportunity to view our various international guest lectures while not having to pack into a lecture hall. Students can also use the lectures as study material and they use the audio to study on trips that wouldn't otherwise allow for studying off of lecture notes... (...)"

Mission

One of the oldest universities in Europe wanted to become more modern and accessible and wished to make lectures available to students at home, allowing them to review the lecture they missed due to illness for example. The Faculty of Law at the Charles University has begun experimenting with lecture transmissions which take place in lecture rooms. Camera, HDMI cables, audio cables, audio and video editing, notebook as a mobile editing room and transmitter were only part of this experiment. But the preparation for one broadcast was impractical and demanding. The Faculty management wanted something simpler but without compromising the quality.

Solution

CamStreamer came up with the solution. The company has offered [AXIS V5915](#) camera equipped with number of inputs and capable of combining various signals. CamStreamer comes with a pre-installed application and with a 90-day trial license. If the customer is satisfied the licence may be extended for an unlimited period. This camera automatically starts transferring to YouTube servers at the pre-set time and broadcasts live events from the reception hall. Thanks to YouTube the lectures are automatically archived and students may replay them when preparing for the exams.

Result

The Faculty is very satisfied with the result and plans to use this technology in other lecture rooms as well. Gradually the Faculty wants to bring all lectures into a virtual space allowing students to combine their study and work. The University is also interested in the option to start the stream by pressing a single button. This allows students to use a simple controller to start the stream on a pre-defined server and do not worry about anything. A very simple control system requiring no technical knowledge may therefore initiate the broadcast.



Video quality	1080p
Audio	Audio from the mixing console (XLR input)
Camera model	AXIS V5915
ACAP applications	CamStreamer App
Streaming platform	YouTube Live
Location	Czech Republic



Charles University, Prague - network cameras bring lectures to students at home

A miracle called AXIS V5915

The base of the entire project is AXIS V5915 PTZ camera, which is designed for direct broadcasting. Equipped with 30x optical zoom and smooth shift, it is also suitable for large halls. But that is not the only reason why this camera is ideal for lecture streaming. Another advantage is that it can receive audio via XLR connectors and uses an analogue input from the audio mixing panel in the hall. This offers easy and high-quality audio recording, which is the key feature for any lecture. The camera was previously set to live-stream the lecture and store it on SD card. Later, when the network was not busy, the lecture was automatically uploaded to the school's FTP repository. Now, YouTube automatically saves the recording, making it even simpler. The camera is also equipped with a LED lamp indicating when the stream is on, so the lecturer also knows when the transmission is active.

CamStreamer App as the ideal control software

CamStreamer seems almost an ideal solution for the school. The application converts the camera signal so it is compatible with all major live streaming servers such as YouTube, Facebook, Wowza, Dacast or Periscope. When using the accompanying CamOverlay application, the system is able to insert additional details directly into the picture, such as images, label with the speaker's name, topic name, time of the lecture, etc. The main advantage of CamStreamer is the fact that the administrator sets all transmission parameters once and no one has to worry about additional details, such as the data stream, server, encoder type, etc. At the same time the application allows the school to set automatic start of the stream based on regular lecture broadcasting calendar so it does not need to be turned on manually. The next extension the school is planning to do is to have a start button that works like a light switch. Once the lecturer enters the room he or she will use just one switch and the entire transmission is done automatically. YouTube latency is only 2 seconds after the last update so the lecture may be played with a very small delay, for example it may be projected on screens (if the Faculty does not wish to use HDMI output on the camera). The Faculty management wanted something simpler but without compromising the quality.

Modern school, modern approaches

The use of the new camera was a clear benefit. „Students now have the opportunity to “enter” certain overcrowded lectures offered by our foreign guests without being crowded in the lecture room. Broadcast from the camera may also be easily played in other lecture halls using a projector, or students may play the broadcast at home or outside using their smart phones. At the same time students use these lectures as study materials and use audio for studying. For example, while on the road where students cannot use printouts,” says Jan Krejčí, the Faculty of Law at the Charles University. „The camera is such a great benefit that we want to get more cameras in other main lecture rooms and have all key lectures available on line.“ This is a modern digitisation trend which makes it easier for students to work at the campus. One of the oldest universities in Europe has demonstrated that Charles University is one of the leaders in this field.

