

An open source system for lecture recording on a national scale

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Abstract

eCampus is a 5 year programme, funded by the Norwegian ministry of education, and hosted by the Norwegian NREN UNINETT, focusing on making technology available for Norwegian higher education sector to make their teaching and research better, more effective and available across organizational and geographical barriers.

One of the areas that eCampus focus on is lecture capture, and the goal is that 40% of every lecture given by the end of the program period (2017) is to be recorded and made available online.

To be able to reach this goal it is important that the universities and colleges in Norway use lecture capture systems that scale, both in terms of economy and technology. To achieve this UNINETTeCampus decided to set up centralized lecture capture solutions and offered these to the HE sector.

The first solution that was set up was Camtasia Relay, a lightweight recording system for personal use. Camtasia Relay records whatever takes place on the users screen, combined with audio and webcam video. The recording is then published on a webserver. By the end of the pilot period the centralized Camtasia Relay installation had nearly 700 users from all universities and colleges in Norway, understating the need for such a solution.

Camtasia Relay is lightweight in any way; it is easy to record and publish content using the software but when it comes to media management and security the system has many shortcomings that are critical even for academic content. As an answer eCampus also made a centralized solution for Sonic Foundry's Mediasite available to the HE sector. Mediasite is an advanced eco-system for lecture capture including recording units and servers for transcoding and delivering the recorded lectures. The system supports live streaming, advanced media management and security features that you don't find on Camtasia Relay. There are now 15 institutions in Norway using the centralized solution.

We see that making these systems available centrally dramatically reduces the cost and complexity for the organizations wanting to do lecture capture. For Mediasite some organizations have reduced their operating costs by 75% by outsourcing the system to UNINETT eCampus. We also see that lecture capture becomes much more available as a service, and lecture capture in Norway has been booming lately. Partly as a result of these services being made available. Still, Mediasite is so expensive and Camtasia Relay lacks so much functionality that another system was needed to bridge the gap between the other two. The choice fell on Opencast Matterhorn; an open source eco-system for lecture recording developed by universities from all corners of the world.

The challenge with using Matterhorn was it's complexity as well as the fact that it , due to being a less mature system compared to it's commercial counterparts, didn't fully support the functionality needed like multi tenant setup and federated logins. UNINETT eCampus teamed up with the swiss company Entwine to face this challenge. Entwine is in many ways an offspring from the Opencast Matterhorn project, and offers the best expertise available on the system. In this talk we will shed light on the background for the project, how Matterhorn fits in to our plans and goals, how it completes the bigger picture when it comes to functionality and discuss what has been done to make Matterhorn a system suited for centralized operations. The Matterhorn project will go through a pilot phase in the spring of 2013 and the findings of that pilot will also be discussed to give participants insight in how Matterhorn can be used as a national low-cost solution for lecture capture. The findings from the pilot will also include the experience with different capture scenarios and AV-setup.

References

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About the authors

Thorleif Hallén works as a project manager for the Norwegian NREN UNINETT, where he holds the responsibility for the lecture capture project under eCampus. Prior to working at UNINETT he worked as a concept developer at the Norwegian University of Science and Technology where he was in charge of lecture capture from 1999-2011. He holds a bachelor's degree in electrical engineering and a master's degree in management.

Tobias Wunden is the CTO and co-founder at Entwine, a team of experienced technical strategists, engineers and design professionals dedicated to the concept that technology can improve the way we interact, communicate, teach and learn. As a lead architect on Opencast Matterhorn for over two years, Tobias gained extensive expertise in audiovisual codecs, semantic content analysis, open source communities and methods for working in interdisciplinary international teams.