LIVE LECTURE SCREENCAST RECORDING: A PROPOSAL TO SIMPLIFY THE TASKS ASSOCIATED WITH CONTENT PRODUCTION FOR VIDEO-TEACHING

J. M. Vargas, C. de Trazegnies, I. Alados, E. Liger, J. M. Peula, J. C. Sanchez, M. Gomez, D. Camacho

University of Malaga (SPAIN)
jvd@uma.es, cto@uma.es, alados@uma.es, eliger@uma.es, jmpeula@uma.es, jcsanchez@ctima.uma.es, mgomez_3@uma.es, dcamacho@uma.es

Teaching effectively through video (video-teaching) would probably be considered a required teaching skill in the near future, especially at the Higher Education level. As a complement of traditional live teaching, it has the potential to exert a positive effect on the learning process. Its advantages include a greater availability of the content for the students, and the freeing up of classroom time for interactive learning.

Three main types of non-interactive video-teaching modalities can be identified: i) live lecture capture (live LC), usually takes place with the students present in the classroom. Its final product is the recording of a full in-classroom session; ii) offline lecture screencast (offline LS), that tends to be recorded and post-produced in the lecturer office. It typically produces short, mini-lesson clips; iii) web lecture (WL), the high-quality studio recording and production of short video lessons. There are different technical difficulties associated to each of these three modalities. For example, in a hypothetical live LC scenario without available technical support, a teacher might be forced to personally commit both teaching and live recording tasks.

Aiming to simplify the video capture and production process, we have experimented with a streamlined and flexible live lecture recording procedure that mixes characteristics typically associated with live lecture capture, on the one hand, and with offline screencast, on the other. The proposed procedure may be summarized as follows:

1. On screen live teaching: our proposal consists on live in-classroom recording of just the on-screen activity and the lecturer voice. Therefore, it could be defined as a live lecture screencast recording. In order for the video teaching to take place completely on-screen, the in-classroom activity, that traditionally takes place in a physical black- or white- board, is replaced with on-screen activities.

2. Portable, open source/free software: in order to achieve the greatest possible flexibility, our effort has focused on the identification of open source/free applications executable from pendrives. Various computer applications can be used to achieve the aforementioned on-screen teaching: the lecturer may choose to comment a previously made slides presentation, write/draw on a virtual whiteboard application, write/solve mathematical problems in an equation editor application, and more.

3. Minimal requirements of additional hardware: In terms of hardware requirements, we have assumed a very reduced and general default in-classroom setup: nor a digital whiteboard neither web- or classroom video cameras need to be available. However, we have found that using a drawing pad as input device, along with the more traditional keyboard and mouse, helps to improve the smoothness of the on-screen interaction. On the other, capturing the video image of the teacher via a web camera introduces challenging technical requirements (e.g. adequate illumination) in a live recording setup. Thus, we consider advisable to drop the requirement of live recording of the lecturer.

This initiative is a work in progress currently being carried out in the framework of an Educational Research Project at the University of Malaga, Spain. It aims to make a contribution in bridging the gap between the current and near-future video-teaching skills of a prototypical average lecturer at Higher Education level.

Keywords: video-teaching, live lecture capture, screencast recording.