

EVALUATING H.265 VIDEO CODEC FOR OPEN COURSES PROJECT

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Abstract

The Open Courses Program in Agricultural University of Athens is a part of a major project for converting the Hellenic University's courses to open courses. Hellenic University aims to produce and transmit knowledge through research and teaching, to cultivate the arts, to contribute to shaping responsible people with scientific, social, cultural and political consciousness and to provide the necessary tools to ensure the perfect training for scientific & professional career. Moreover it aims to contribute to direct the social, cultural and development needs of the country, as well as to address the need for continuous education and life-long training of the people.

“Faculty members” of an Agricultural University belong to the target audience, as creators. The active participation of faculty members is a key determinant of the success of the action. However the general public as users of Open Courses may also be target audience. This audience includes students and graduates of the Institute, students interested in attending the Institute, graduates of other institutions, professionals and individuals who want to acquire new skills or update those acquired during their studies, local authorities and various professional groups. The public will be able to search for open courses of interest and has free access to educational content. The Open Courses project aims to all departments of Agricultural University of Athens. The main e-learning software suite of the Open Courses Project will be the UniSuite a software suite which contains the following software applications:

- Uniboard
- UniPM
- MashuApp
- Unibook

Uniboard is a monitoring HTML 5 tool compatible with all the well-known e-learning platforms.

UniPM is a Project Management tool based on IP.AD. model (Chimos et. al 2012) for the specific e-learning platform implementation.

MashAPP is a promotional tool based on Mashup technology.

Unibook is a combination of synchronous and asynchronous e-learning platform. The asynchronous part is based on Moodle platform and the synchronous part is based on Adobe Flash technology via BBB (BigBlueButton) using the H.264 encoding. The use of H.265 will boost the efficiency of the synchronous part of the platform. The quality will improve with lower bandwidth use. The improvement of quality will give the opportunity to transmit video with all

the “must see” detail. In Agricultural University of Athens many laboratories need all the specific details in video in order to accomplish their experiments.

This paper deals with the currently developing video encoding standard and its future use in the video applications of the project. The scope of this paper is to evaluate the encoding and compression efficiency of the new standard in comparison to its predecessor and more specifically to validate the use in video capturing, the use in video conference via Unisuite and edit for the videos of open courses project.

Keywords: UniSuite, H.265, Open Courses.