Work in Progress – Exploiting videoconferencing possibilities to promote the European convergence process

Enrique Barra, Sandra Aguirre, Juan Quemada
Universidad Politécnica de Madrid, ebarra@dit.upm.es, saguirre@dit.upm.es, jquemada@dit.upm.es

Abstract - This paper introduces the experience of using videoconferencing and recording as a mechanism to support courses which need to be promoted or discontinued within the framework of the European convergence process. Our objective is to make these courses accessible as live streaming during the lessons as well as recorded lectures and associated documents available to the students as soon as the lesson has finished. The technology used has been developed in our university and it is all open source. Although this is a technical project the key is the human factor involved. The people managing the virtual sessions are students of the courses being recorded. However, they lack technical knowledge, so we had to train them in audiovisuals and enhance the usability of the videoconferencing tool and platform. The validation process is being carried out in five real scenarios at our university. During the whole period we are evaluating technical and pedagogical issues of this experience for both students and teachers to guide the future development of the service. Depending on the final results, the service of lectures recording will be available as educational resource for all of the teaching staff of our university.

Index Terms - Lectures recording; Videoconferencing systems; Distance education; Virtual classroom.

INTRODUCTION

The development of a European Space for Higher Education widely known as the Bologna Process is currently being promoted. Curriculum restructuring is being carried out at our university as part of the Bologna process implementation. Some subjects have been discontinued but they need to be supported for students registered under the old curricula that do not pass this year’s exam. Likewise, all students have to demonstrate a previous advanced English level to access the English courses as part of the degree, so our university has introduced an English basic and medium course to help these students to improve and achieve the desired level.

For this purpose we have developed an integral solution of videoconferencing and recording lectures following the ideas presented in [1] and [2]. Our proposal includes a web portal, a videoconferencing tool and an economical and easily transportable hardware kit. Offering online video recordings of lectures after they have been given is useful in allowing students to view lectures they have missed or to re-view difficult lectures again to improve understanding [2]. Recorded sessions can be exported to SCORM and LOM. We are evaluating the performance of our solution as tool to promote the European convergence process.

The remainder of the paper is organized as follows. Section 2 describes the scenario for which we intend to provide a solution. Section 3 highlights issues related to the implementation carried out. Section 4 presents the project status. Finally, we present our conclusions and future work.

SCENARIO

The web platform to schedule, perform, stream, record and publish the videoconferences automatically is called GlobalPlaza [3] and it is integrated with the videoconferencing tool that we have used which is called Isabel [4]. Both of them are open source and have been developed in our university for educational purposes.

In order to provide educational support to GlobalPlaza, the CyberAula 2.0 project has been proposed. Its main objective is to record lectures and export them to SCORM and LOM compliant files which can be imported by an LMS such as Moodle. Students can review the recorded lectures when needed through Moodle. Five pilot scenarios located in different campuses at our university have been proposed to validate the CyberAula project.

<table>
<thead>
<tr>
<th>TABLE I</th>
<th>CYBERAULA’S SCENARIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>Subject</td>
</tr>
<tr>
<td>1</td>
<td>English courses</td>
</tr>
<tr>
<td>2</td>
<td>Digital Systems</td>
</tr>
<tr>
<td>3</td>
<td>Web 2.0</td>
</tr>
<tr>
<td>4</td>
<td>Structure of materials 2.0</td>
</tr>
<tr>
<td>5</td>
<td>Plants of Agro-alimentary interest</td>
</tr>
</tbody>
</table>

IMPLEMENTATION

Although CyberAula is a technical project the key to achieving its objectives has been the collaboration of the people involved, professors that teach in the classes, students that manage the videoconference and technicians that give support to the former ones.

Our goal is for the students to be able to manage the appropriate hardware and software to prepare the session.

October 12 - 15, 2011, Rapid City, SD
CONCLUSIONS AND FUTURE WORK

The use of a videoconferencing system together with the scheduling, streaming and recording platform is allowing our university to support courses which need to be promoted or discontinued in the framework of the European convergence process. One detected problem that we are solving with a new version of Isabel is that sometimes the internet connection fails or has some packet losses and so the course cannot be recorded or experiences a very low quality. Isabel will now have a new functionality to locally record the session and GlobalPlaza will allow the user to upload the resulting video.

Surveys on usability, students’ learning experience and use of the CyberAula kit solution are being designed. This study will involve teachers, students and technicians. The results from these surveys will be collated and used to guide future development of the full service.

We are evaluating technical and pedagogical issues of this experience for students and teachers. According to the final results, the lecture-recording service will be available as an educational resource for all of the teaching staff at our university.

ACKNOWLEDGMENT

This work is funded by the Universidad Politécnica de Madrid under the project CyberAula 2.0. This project is part of the educational innovation program.

REFERENCES


AUTHOR INFORMATION

Enrique Barra, PhD Student, Department of Telematics Engineering, Universidad Politécnica de Madrid, ebarra@dit.upm.es

Sandra Aguirre, PhD Student, Department of Telematics Engineering, Universidad Politécnica de Madrid, saguirre@dit.upm.es

Juan Quemada, Professor, Department of Telematics Engineering, Universidad Politécnica de Madrid, jquemada@dit.upm.es