Chapter 5
Supporting Case-Based Learning Through a Collaborative Authoring System

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ABSTRACT
A web based collaborative authoring system is deployed to support collaborative and case-based learning projects. Using the versioning and logging data provided by the system a high utilization intensity can be partially ascertained. Reducing plagiarism constitutes a further utilization potential of the collaborative authoring system.

INTRODUCTION
Studying while holding a full-time job has enjoyed increasing popularity in Germany in the past years. The number of students at the University of Applied Sciences of Economics and Management in Essen (FOM) which focuses its study programs for such students have more than quadrupled between the Fall Semester 2001 and the Fall Semester 2006 (Destatis, 2008). Facing such a high average annual growth rate of up to 30 percent it has to be guaranteed that students continue to get interactive feedback from their teachers regarding their learning progress. Such feedback is an essential instrument of control and motivation in teaching (Sesink, Geraskov, Göller, Rüsse, & Trebing, 2005). This applies in particular to supervising thesis papers as well as conducting group and case based studies.

These group and case based studies can be considered as an attempt to adapt the approach of collaborative knowledge construction (Mandl, & Krause, 2001; Fischer, 2001). Benefiting from their different vocational experiences and skills on the one side, based on a taught process model on the other side, the students are instructed to organize themselves to find solutions in some specific problem cases. Each student group has to interview the “client”, to write a scientific paper collaboratively and to carry out a final presentation. The teacher acts not only as the “client” who engages the teams to
solve some management problems, but also helps the students achieve their objectives by defining milestones and giving feedback.

It is well known though that such a formative method causes a teacher’s workload to be five times higher than if using the classical summative one. Merely through use of online technologies this additional expenditure can be kept within limits (Low, 2005). Moreover, due to their full-time jobs these students have fewer opportunities to communicate face-to-face between both each other and to the supervisors, compared to students at most other universities. An online technology based learning scenario helps students proceed with their case-based learning projects independently of time and space, while keeping a proper work-life balance.

Collaborative learning environments (Howard, 2005; Jia, 2005) and especially collaborative authoring systems (CAS) are such online technological platforms. Besides various approaches perfecting synchronous CAS (Shen, & Sun, 2004; Raikundalia, & Zhang, 2005) several successful projects deploying XML and web based asynchronous systems have been reported (Kim, 2002; Luzi, Ricci, Fazi, & Vignetti, 2003; Weng, & Gennari, 2004). XML or Extensible Markup Language is a simple, very flexible text format which plays an increasingly important role in the storage and exchange of data on the Web and elsewhere (W3C, 2009).

The usage of a collaborative authoring system does not only require a continuous evaluation of the system in a live environment but supports this by its inherent functionality. Many studies have been made to present comprehensive concepts (Steves, & Scholtz, 2005; Adler, Nash, & Noël, 2006) or to carry out research work using diverse experimental setups (Wells, & Sevilla, 2003; Krowne, & Bazaz, 2004; Emigh, & Herring, 2005; Linde, 2005; Masoodian, Bouamrane, Luz, & King, 2005; Zander, 2005).

Since mid of 2005 an XML and web based asynchronous collaborative authoring system has been provided at the Study Centre Munich of the FOM University of Applied Science. This system was first published in 2004 (Hu, & Lauck, 2004) and has been developed continuously (Hu, 2006). Using this system the students should not only streamline their document creation in distributed working groups but also develop their collaboration skills while applying collaboration techniques. The system also facilitates diverse capabilities for teachers to conduct group based and distributed learning projects.

In this chapter we look at how this XML and web based asynchronous CAS can be used to support case-based learning. The aim of this chapter is to

- Outline the specific needs of these kind of students
- Explain what functions this system provides to support these needs
- Report the actual extent of the system’s usage by the students
- Debate the pros and cons of the system
- Evaluate the deployment potential of the existing collaborative authoring system
- Motivate further specific improvements in the system.

PROBLEM SITUATION FACED BY STUDENTS AND TEACHERS

As a compulsory subject students at FOM have to carry out two case-based learning projects in self-organized teams. The course is organized on a semi-distance learning basis. Each team consists of normally four or five members. The case-based learning projects require that each team produces a conclusive document that complies with the requirements on academic papers. The goal of such projects is communicated clearly as a combined training of both hard and soft skills. Unlike many other universities FOM students are employed and studying besides job, many of them...
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