Chapter 9

SCRIPTED ANCHORED DISCUSSION OF MULTIMEDIA LECTURE RECORDINGS

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Abstract: Lecture recording has become a widespread way of producing e-learning contents. The resulting documents, however, are usually limited with respect to collaborative learning. This chapter introduces the concept of scripted anchored discussion as a means to facilitate net-based group collaboration around multimedia lectures. Discussion contributions are anchored at specific spatial and temporal positions within the document, allowing both document-centred and discourse-centred views of the discussion. Cooperation scripts are used to structure and sequence the discussion process. A formal model is proposed to represent discussion scripts. Furthermore, we explore ways to fade out scripting instructions in order to adapt to users’ increasing internalization of the scripts.

1. INTRODUCTION

A substantive portion of the digital contents for computer-supported learning available today are multimedia recordings of live lectures and talks. An ever-growing number of institutions -- both universities and corporations -- have adopted presentation recording as a cost-effective way of producing contents out of those resources that have already been there: experts in a discipline and their explanations of a subject to an audience. As most presentations today make heavy use of computer technology anyway, it is a natural approach to also use the computer to preserve the experience of the talk for other audiences. Since the advent of multimedia PCs for the masses in the mid 1990s, a great deal of research and development has been put in methods to automatically record computer-based live presentations in order to produce multimedia learning contents, and today a wealth of different systems and approaches is available (for an overview, see Lauer & Ottmann, 2002; Müller & Ottmann, 2003).
Among the factors making this approach attractive as a content-production method are its cost-efficiency and the very quick availability of the contents. Instructors simply prepare the materials (such as slides, animations etc.) as usual and teach their regular face-to-face lectures, which are recorded automatically by the hardware and software in the lecture hall and turned into a multimedia document (see Figure 9-1). In the ideal case, no additional personnel are required and the instructors do not even notice that they are recorded. Depending on the time required for post-processing and format conversion, the resulting multimedia documents can be ready within minutes after the live class has ended. This is in stark contrast to other production methods for e-learning contents, which often involve a whole team consisting of content experts, pedagogues, media designers and others, resulting in a high cost and long time of production, which has made content creation the "bottleneck" of most e-learning applications. Hence, there are good reasons for using presentation recording, in spite of the shortcomings discussed below.

![Figure 9-1: Presentation recording turns a live lecture (left) into an "e-lecture."](image)

The resulting contents are far more than simple video recordings of lectures; modern systems produce integrated multimedia documents containing presentation slides and other materials shown, synchronized with the presenter’s audio narration, video picture and their annotations, and augmented with rich structural information and navigational support for viewing the contents other than in a purely linear fashion. The tool that this work builds on is the “Authoring on the Fly” (AOF) system developed at the University of Freiburg (see Müller & Ottmann, 2000).

Learners access the resulting e-lectures via download or streaming over networks or get them on mass storage media like CD-ROM/DVD, as described by Lauer, Müller, and Trahasch (2004). Comfortable ways of navi-