

eduWeaver – the Courseware Modeling Tool

Judit Bajnai¹, Dimitris Karagiannis¹, Claudia Steinberger²

¹ University of Vienna, Faculty of Computer Science, Institute of Business and Knowledge Engineering, Bruenner Str. 72, A-1210 Vienna, Austria

² Alpen-Adria University Klagenfurt, Department of Business Informatics and Application Systems, Universitaetsstrasse 65-67, A-9020 Klagenfurt, Austria

1 Motivation

Technology has changed the way we live, think and work. Technology has revolutionized business and now it must revolutionize teaching and learning. Live classroom based training is becoming too costly and cumbersome. 80 % of teachers and students already use computers. So e-learning can be seen as a means supporting life long learning with a lot of benefits. The worldwide web, high-capacity networks and high speed computers make learning available to people 24 hours a day in their office, at home or also in hotel rooms during a business trip around the globe. E-learning enables the access to learning when it is convenient.

Although there are a lot of web based e-learning solutions on the market, using these tools to conceptually model courses still stays a very difficult task for most teachers. They are supposed to digitize and multimedialize their course contents and to organize virtual courseware themselves. However mostly passing the first euphoria courseware creation mostly turns out to be incredible costly and time consuming. [1]

A platform-independent modeling tool for the creation of courseware is introduced in this tutorial.

2 The Conceptual Modeling Tool - eduWeaver

In 2001 an Austrian project called eduBITE (Educating Business and Information Technologies) [2], [3] started. The project was funded the Austrian Federal Ministry for Education, Science and Culture (bm:bwk) within the initiative "Neue Medien in der Lehre" (new media in education). The main focus of this project was the development of an instructional design method called eduWeaver at the University of Vienna.

EduWeaver is based on the meta-modeling platform ADVISOR[®] [4], [5]. Within this meta-modeling platform the e-learning specific courseware modeling method eduWeaver was implemented [6].

eduWeaver supports teachers by creating new e-learning courses reusing existing multimedia learning objects created and provided by different higher educational institutes in Austria [7].

eduWeaver provides teachers with a so called "content pool" for content management of existing teaching materials. This content pool is linked with the

modeling core of eduWeaver, offering a graphical tool in order to do instruction design work. eduWeaver also offers a standardized interface for SCORM [7] based content export in order to provide e-learning courses within a learning management system.

The modeling core of eduWeaver consists of four modeling levels. Each level contains learning construct instances that correspond to the model types Course-Overview, Course, Module and Lesson. These model types are hierarchically linked to each other by internal references. Within each modeling level sequences of instruction can be graphically modeled by using according object and relation classes representing different granularities of the process level. [8]

Figure 1 shows the meta model of this method.

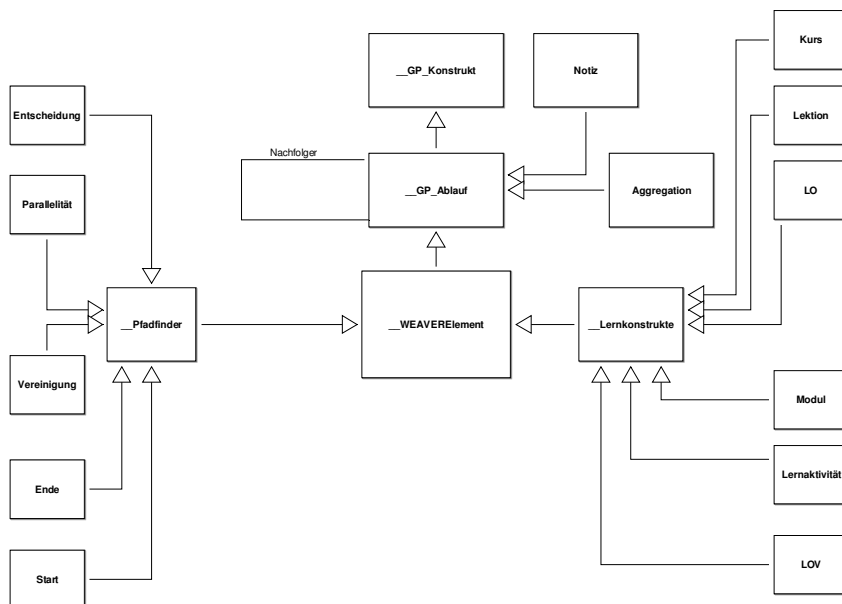


Fig. 1. Meta model of eduWeaver

Within this tutorial the Meta-Model of eduWeaver will be introduced, further a practical introduction into modeling with eduWeaver will be given.

Past experiences and future development plans are discussed with interested researchers.

Intended Audience:

This tutorial is addressed to following interest groups:

- Teachers using ICT
- Instruction Designers
- Researchers in Modeling Methods
- Researchers in Meta-Modeling

Related Topics of the Conference

(38) Model Driven Approaches, (06) Teaching Modeling, (10) systems for managing and using conceptual information and models

References

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