

MANY TO MANY: OBJECT-BASED MANAGED LEARNING ENVIRONMENTS

Rachel Ellaway, David Dewhurst

Learning Technology Section, College of Medicine and Veterinary Medicine.

The University of Edinburgh, United Kingdom

The use of Virtual Learning Environments (VLEs), Learning Management Systems (LMSs) and Managed Learning Environments (MLEs) in healthcare education is rapidly becoming the norm rather than the exception. While many have chosen to use off-the-shelf systems like Blackboard and WebCT many others have built their own bespoke systems around their specific needs. The College of Medicine and Veterinary Medicine at the University of Edinburgh has been developing a range of bespoke MLEs since the 1990s. This paper reports on aspects of these systems' architectures that enable rapid adaptation of the learning environment to changing circumstances in the learning environments they serve.

The key to the Edinburgh approach is one of 'abstraction'. All entities in the system are abstracted from any particular context and can therefore be managed quite independently. Basic object types include:

- Person – all the students, academic and support staff and other participants, and all the roles they undertake
- Event – all the lectures, practicals, study sessions, assessments and other discrete time-based events associated with the course
- Resource – all of the electronic and physical resources used in the learning environment
- Node – the pages of the content management system that represent the text-based content and its hierarchical organisation
- Objective – all of the learning objectives and outcomes in the course

By associating different objects then more complex objects can be created:

- person + event = timetable
- timetable + learning resources = learning activity
- learning activities + learning objectives = curriculum.

These are different forms of abstraction from those developed by programs such as MIT's Open Knowledge Initiative (<http://web.mit.edu/oki/redirect.html>) as they deal not with 'what' but 'how' information and services are managed and presented to the user.

This paper will demonstrate the way the system can be used to adapt and track the environment over time and how this can be translated into effective and powerful learning and logistical support for the complex patterns of education often found in medicine and related subjects. A particular point of interest will be the demonstration of how a complete content management system can be built in minutes using the '4-table node' trick.