Supporting the non-expert in the authoring of personalized learning using IMS LD

Tim Sodhi, Yongwu Miao, Francis Brouns, Rob Koper
Open Universiteit Nederland

ePortfolio, Maastricht
Thursday 18th October 2007
Overview

- IMS Learning Design
- IMS LD & Learner Portfolios
  - w/ Example
- Authoring tools today
- Existing Classification
- Alternate Classification
About me…

- Born 1980, India
- Degrees
  - Software Systems Engineering (Germany)
  - Computer Science & Engineering (India)
- Now @ OUNL since July 2006
- Research, design & implementation - learning design tool for non-experts
“People in specific groups and roles engage in activities using an environment with resources and support, to achieve certain learning objectives”

Benefits
- A common notation
- Pedagogically neutral
- Emphasis on learning design
- Exchange with others
- Complex learning scenarios
- Adapt easily to different situations
• A number of possible plugs
  ◦ Personalized education with learning path flows

• Three levels in IMS LD
  ◦ Level A – Activities
  ◦ Level B – Properties, Conditions
  ◦ Level C – Notifications
Weak competence in Dynasty XVIII Genealogy

Strong competence in hieroglyphic script

Strong (!) competence in Dynasty XVIII Genealogy

Designs activities and learning flow possibilities

E.g. - UoL on Egyptology
• Competences needed for existing LD authoring tools
  ◦ Domain knowledge
  ◦ Pedagogy
  ◦ LD specification
  ◦ ICT knowledge and skills

• Today’s IMS LD tools are not suitable for non-experts.
• General purpose vs. specific purpose

• Those targeted at experts, vs. novices in specification

(Griffiths et al., 2005)

• But...
  ◦ How does design take place?
  ◦ What support and guidance is offered to the designer?

• Evident: a lack of understanding
Case for a reclassification

- Basis for evaluation
  - Compare and contrast
  - Bring out paucity

- Inform development of a new generation
  - Bridge gaps identified
  - Salient features recommended
• How the users approach the design task
• The support and guidance afforded to the users
  • Bottom-up
  • Top-down

An alternate classification
- Emphasis on emergence of design from lower level details
  - Does not emphasize on the type of learning to be modeled
  - Relies on the author being fully cognizant of underlying pedagogies
  - Design activity is relegated to mere editing of UoLs.

- Support offered is minimal
  - At most with the specification constructs.
  - No higher level support

Bottom-up
• Emphasis on elicitation & selection of learning scenarios
  ◦ Provision of learning design rules (Koper, 2005)
  ◦ Choice from among existing models encapsulating sound educational principles and learning theories

• Support offered throughout the design process
  ◦ Targeted support with design rules
  ◦ Context sensitive support and guidance based on that.
  ◦ Suggested modeling order

Top-down
User profiles

- **Bottom-up approach**
  - Considerable design experience
  - Clear idea at the inception about the design

- **Top-down approach**
  - Non-experts in the specification
  - Non-experts in learning theories
  - High IT skills not a requisite
• Scenario-based modeling
• Inception of the design activity
• Support and guidance during design
• Proximity to the specification
• Editing approach followed
• Information on LD
  ◦ http://www.imsglobal.org/learningdesign/index.htm
  ◦ http://www.learningnetworks.org/
  ◦ http://dspace.ou.nl/community-list

• Open University
  ◦ http://www.ou.nl

• Mail@: tim.sodhi@ou.nl
Learner's Portfolio

IMS LD Level B Properties

Alternative A

Alternative B

Result

Choice

Global

Local

Role

General

Person

IMS LD & Learner ePortfolio