GITTA: Geographic Information Technology Training Alliance

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Content

- Motivation, Objectives, and Characteristics (Weibel)
- Didactical and Technical Design (Lorup)
- Conclusions and Outlook (Lorup)

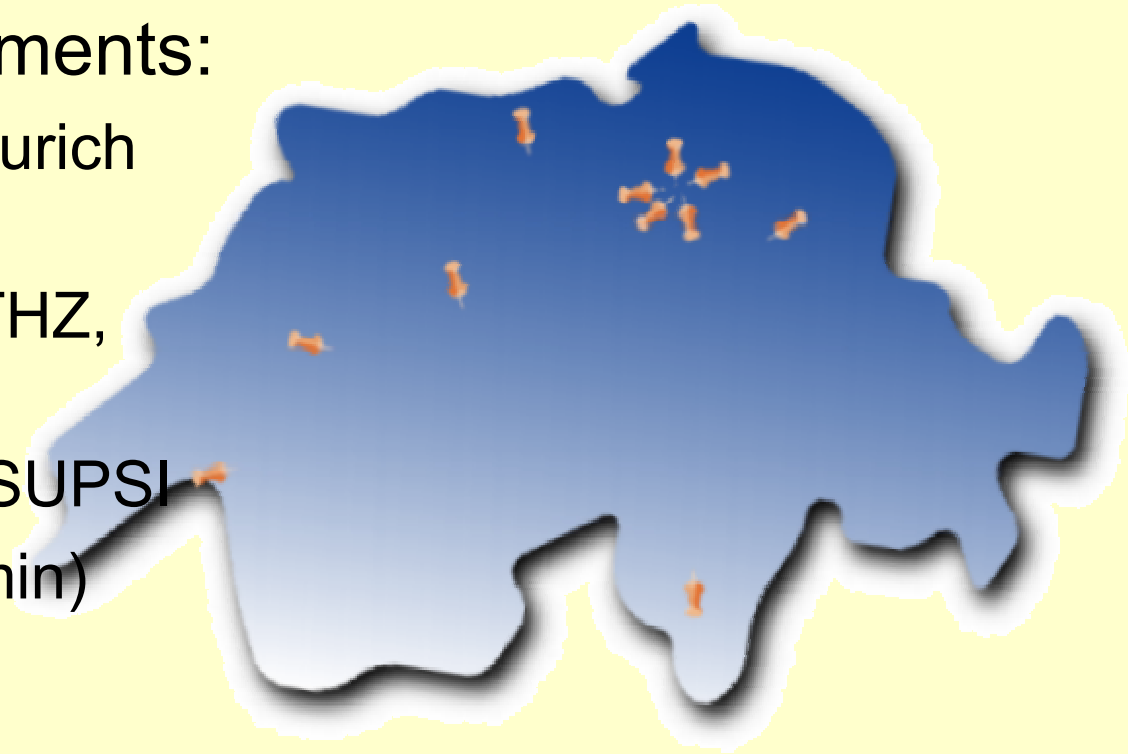
Motivation

- Geographic Information Systems (GIS) are a core technology for the spatial sciences today.
- Interdisciplinary field where education could obviously benefit from a collaboration between educational institutions.
- GIS education mainly takes place in core disciplines (geography, geomatics/surveying, computer science).
- Increasing interest by students from other spatial sciences (biology, env. sc., earth sc.) → capacity problems
- As an IT field, GIS technology naturally lends itself to e-learning.

GITTA Partners

7 schools, 11 departments:

- State universities: Zurich (Lead), Fribourg
- Federal schools: ETHZ, EPFL
- UAS: FHBB, HSR, SUPSI
- KOGIS (federal admin)



Duration: 1.7.2001 – 31.12.2003

Key Characteristics

- Large consortium
- State universities, ETHZ/EPFL, UAS
- Consortium partners offer > 85% of capacity in GIS higher education in Switzerland
- Interdisciplinary: natural sciences, engineering, partially social sciences
- Multilingual

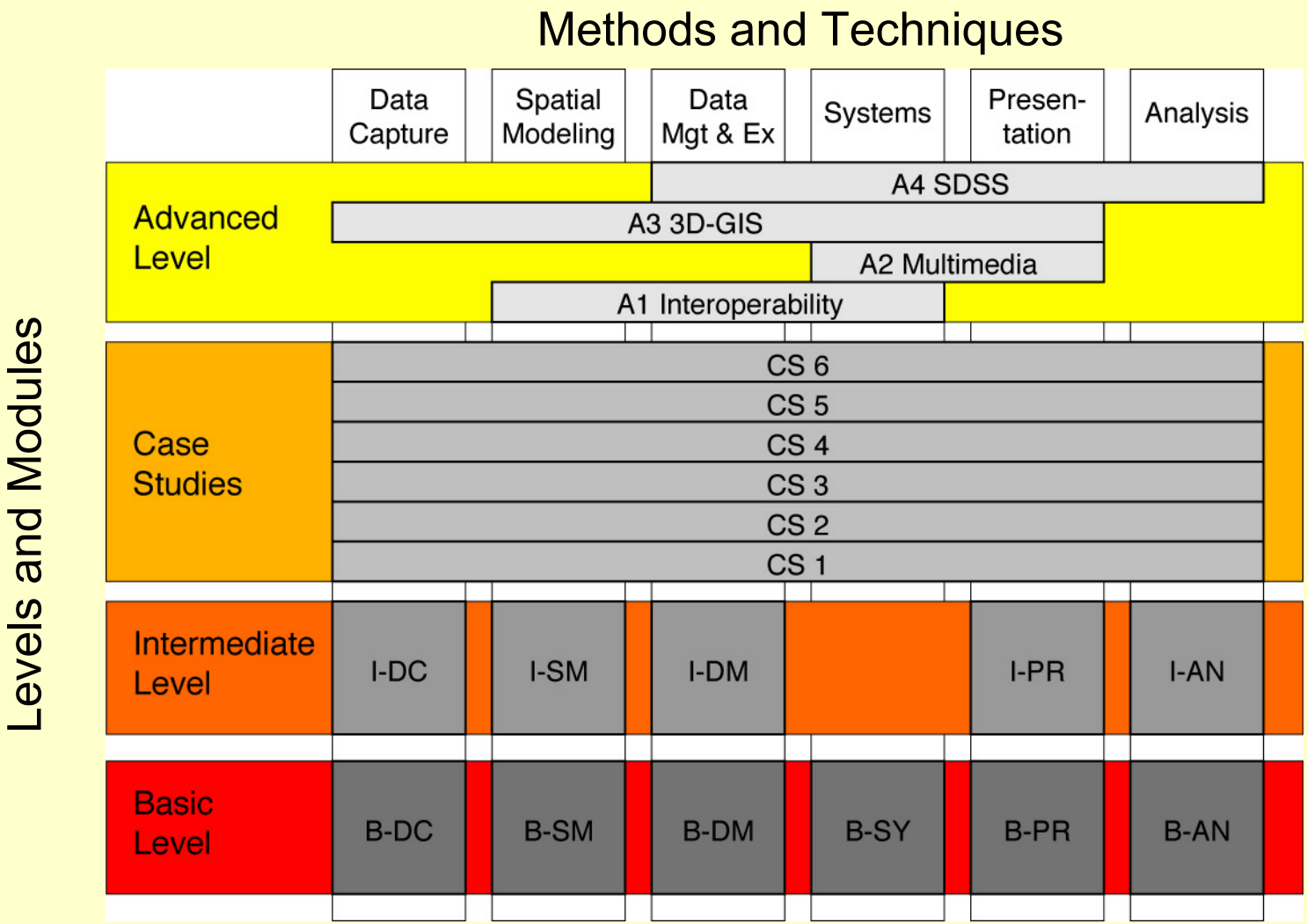
Objectives

- Gather diverse and geographically scattered knowledge in a coordinated virtual campus for GIS teaching, nationwide
- Exploit synergies, eliminate redundancies between partners
- Integrate GITTA modules in regular curricula to complement traditional teaching
- Replace ex-cathedra teaching by e-learning, where possible
- Use teachers‘ capacity primarily for coaching (face-to-face)
- Extend seat capacity, primarily in practicals
- Promote case-based teaching

Course Structure

- Covers multiple courses (3 semesters)
- Response to different needs
  - universities/ETH vs. UAS
  - theory vs. practically oriented teaching
- Modular design of course structure
  - **Basic level:** 4 credits, same for all participating institutions
  - **Intermediate level:** 4 out of 6 credits
  - **Advanced level:** specialized modules
  - **Case studies:** practically oriented, case-based teaching; various modules that can be used as practicals or stand-alone

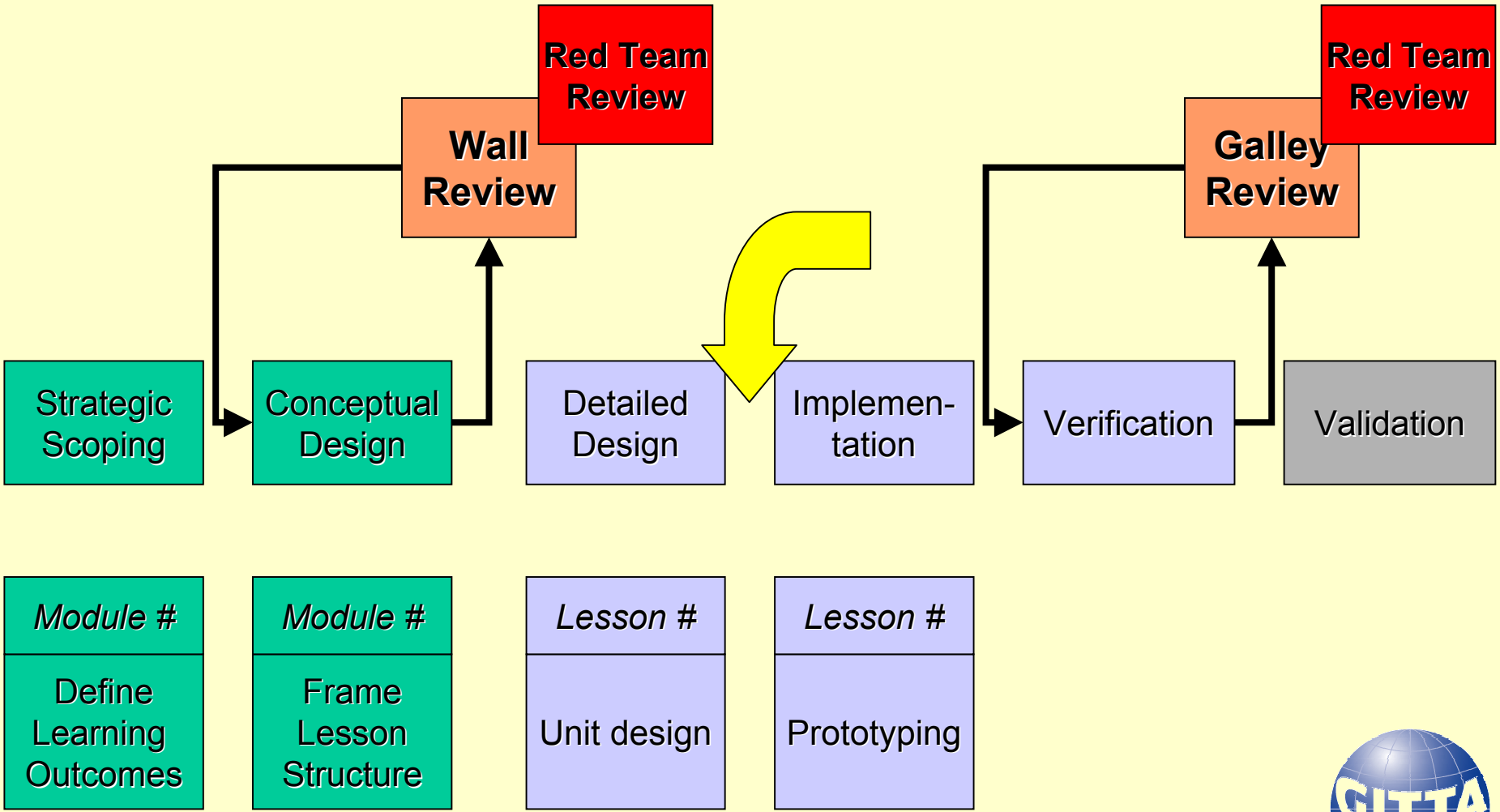
GITTA Course Structure



What helped and what didn't

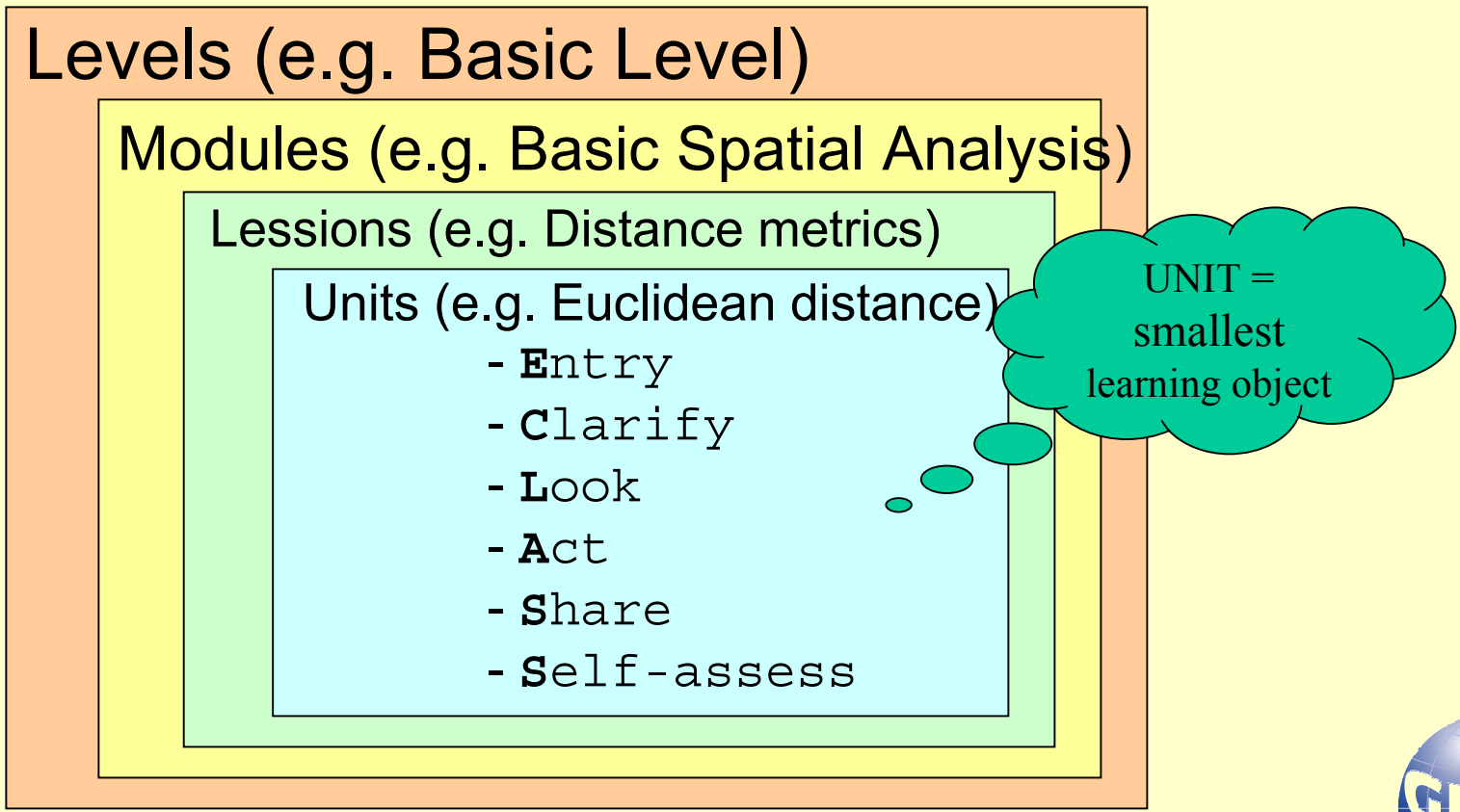
- What helped:
  - project started in Phase II of SVC !!!
  - IT-related subject, graphics-oriented (maps!)
  - personnel is
    - used to interdisciplinary work
    - well versed in web technologies (!)
    - used to software development
    - is highly motivated
- What didn't help:
  - recruiting problems → initial delay of 3 months

Design


Red Team Review
Wall Review
Red Team Review
Galley Review
Strategic Scoping
Conceptual Design
Detailed Design
Implemen-tation
Verification
Validation
Module #
Define Learning Outcomes
Module #
Frame Lesson Structure
Lesson #
Unit design
Lesson #
Prototyping

Didactical Design

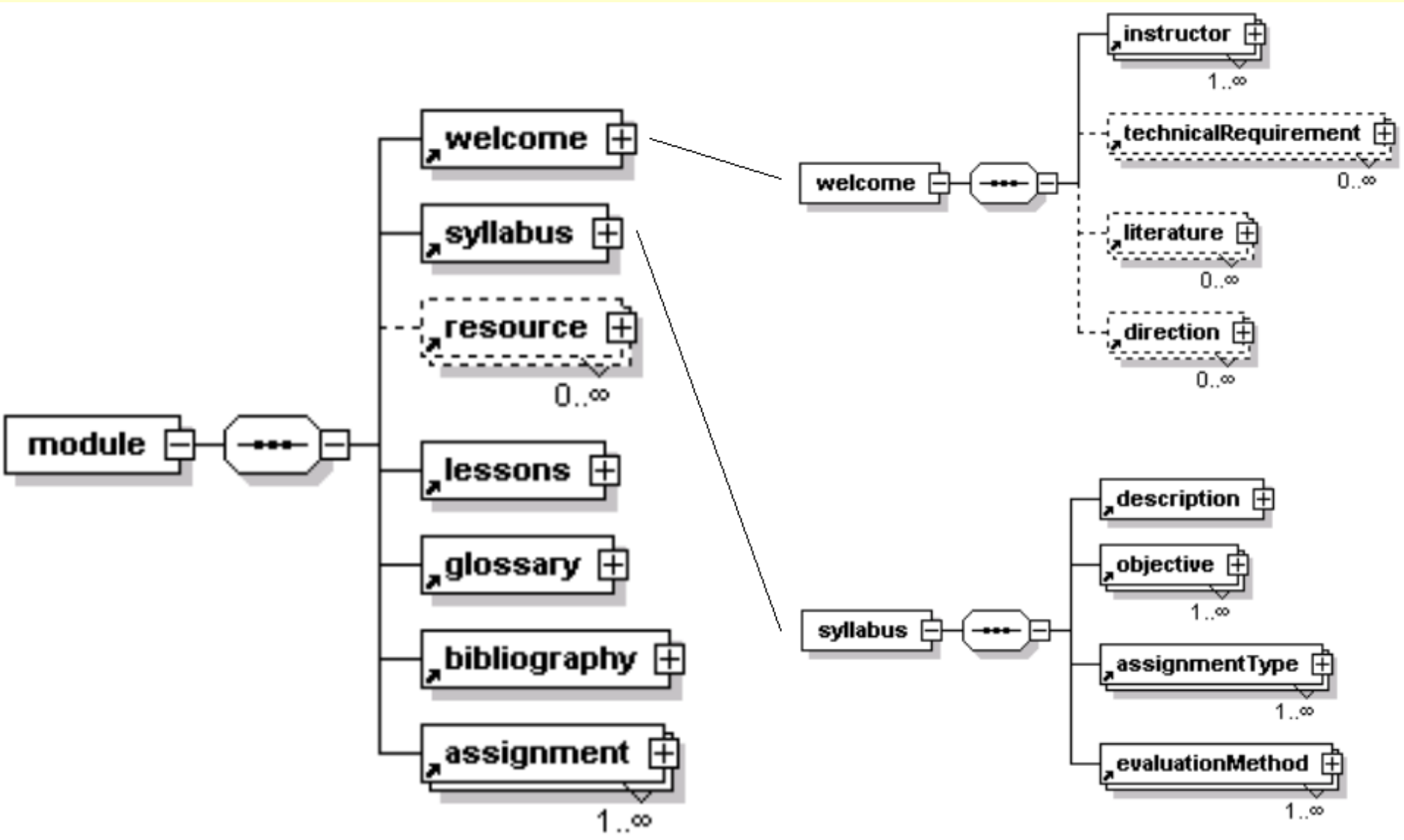
- Design Structure:



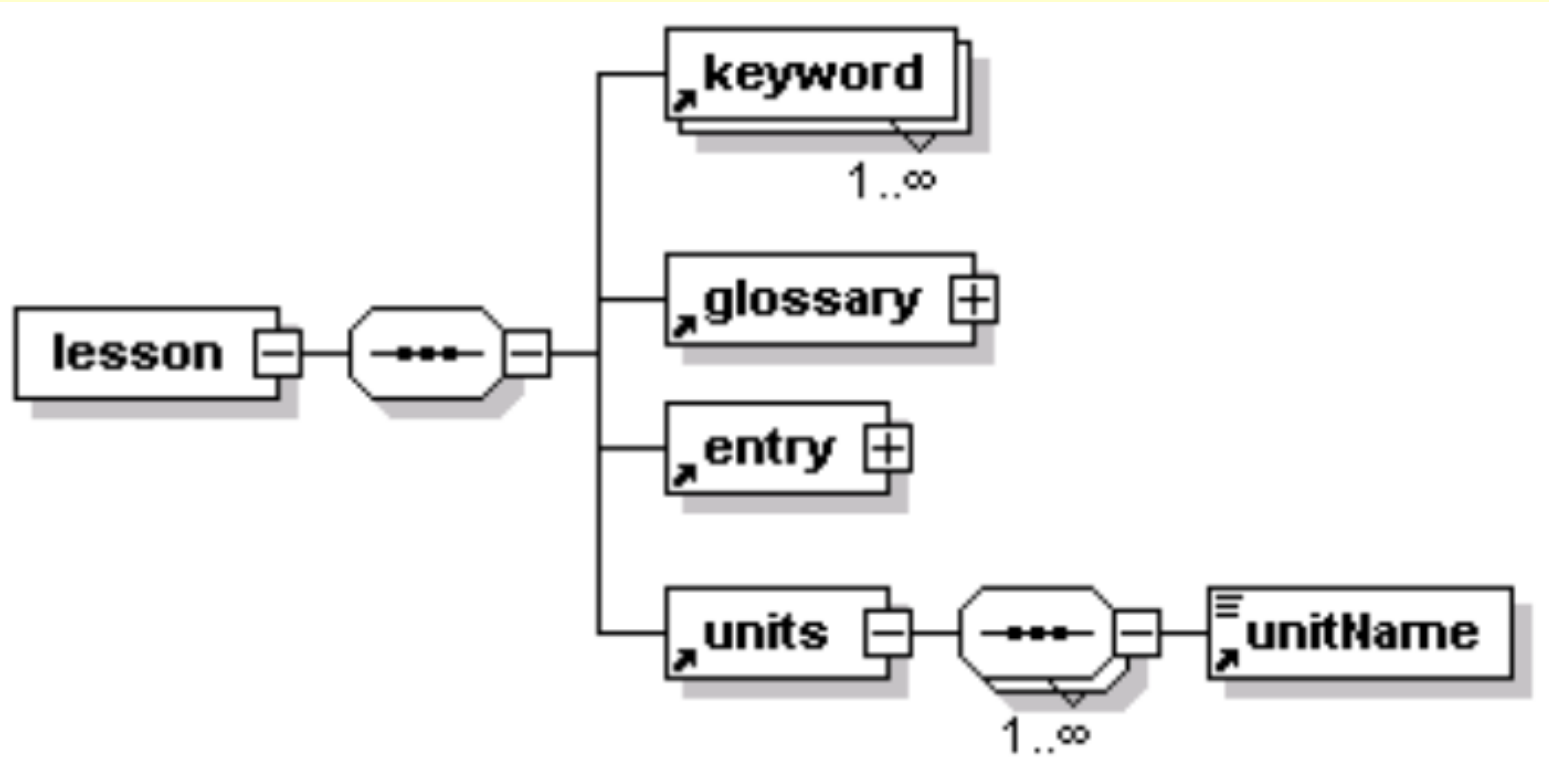
From Didactical to Technical Design

- XML
  - Clear separation of content and form
  - DTDs represent didactical structure (ECLASS)
  - XSL/XSLT (stylesheets) allow flexible formatting of output (HTML, PDF, RTF, WAP, ...)
- Technical infrastructure for authors
  - User friendly templates for content development
  - XMetaL, XML Spy, Word

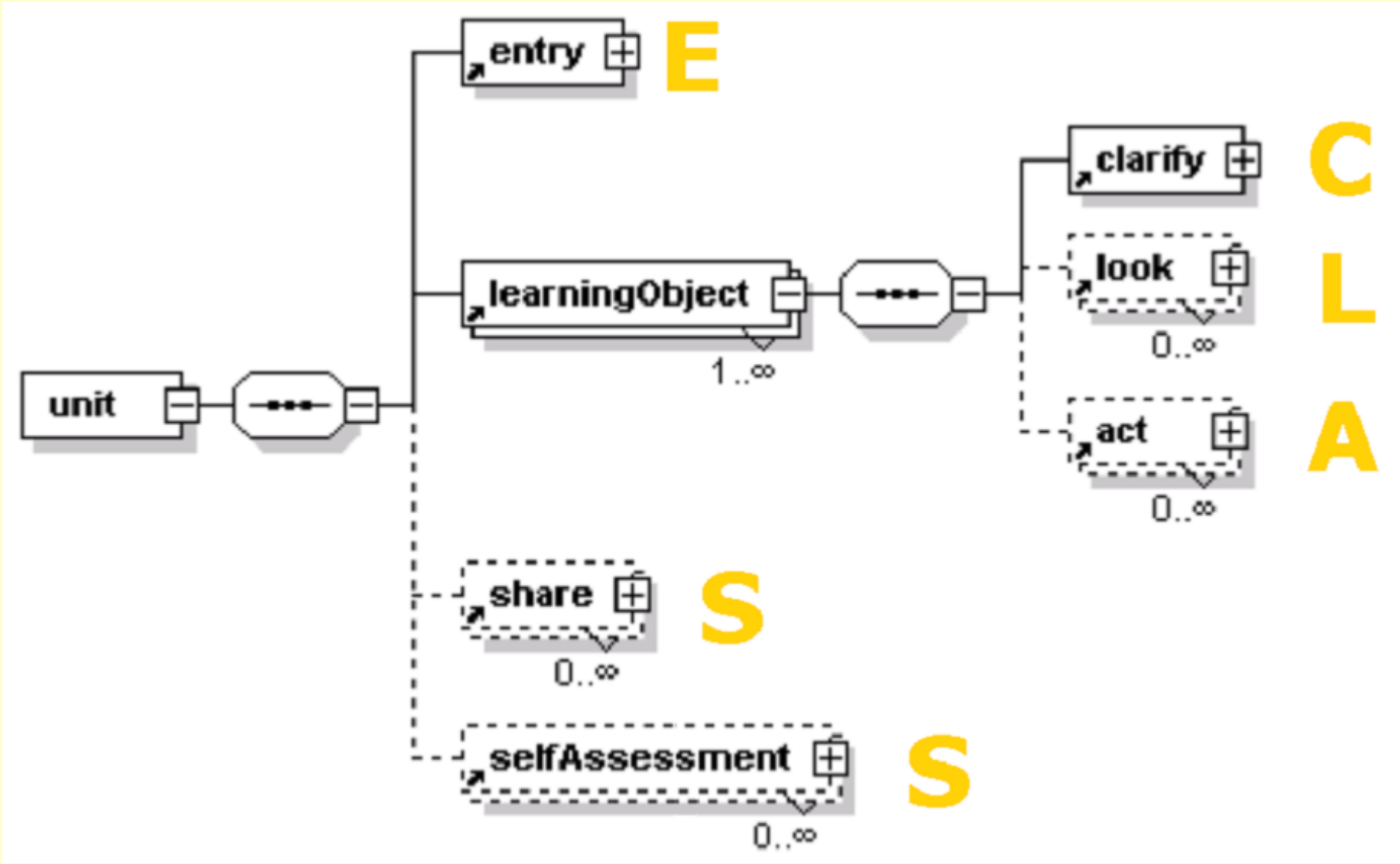
Module: DTD Structure



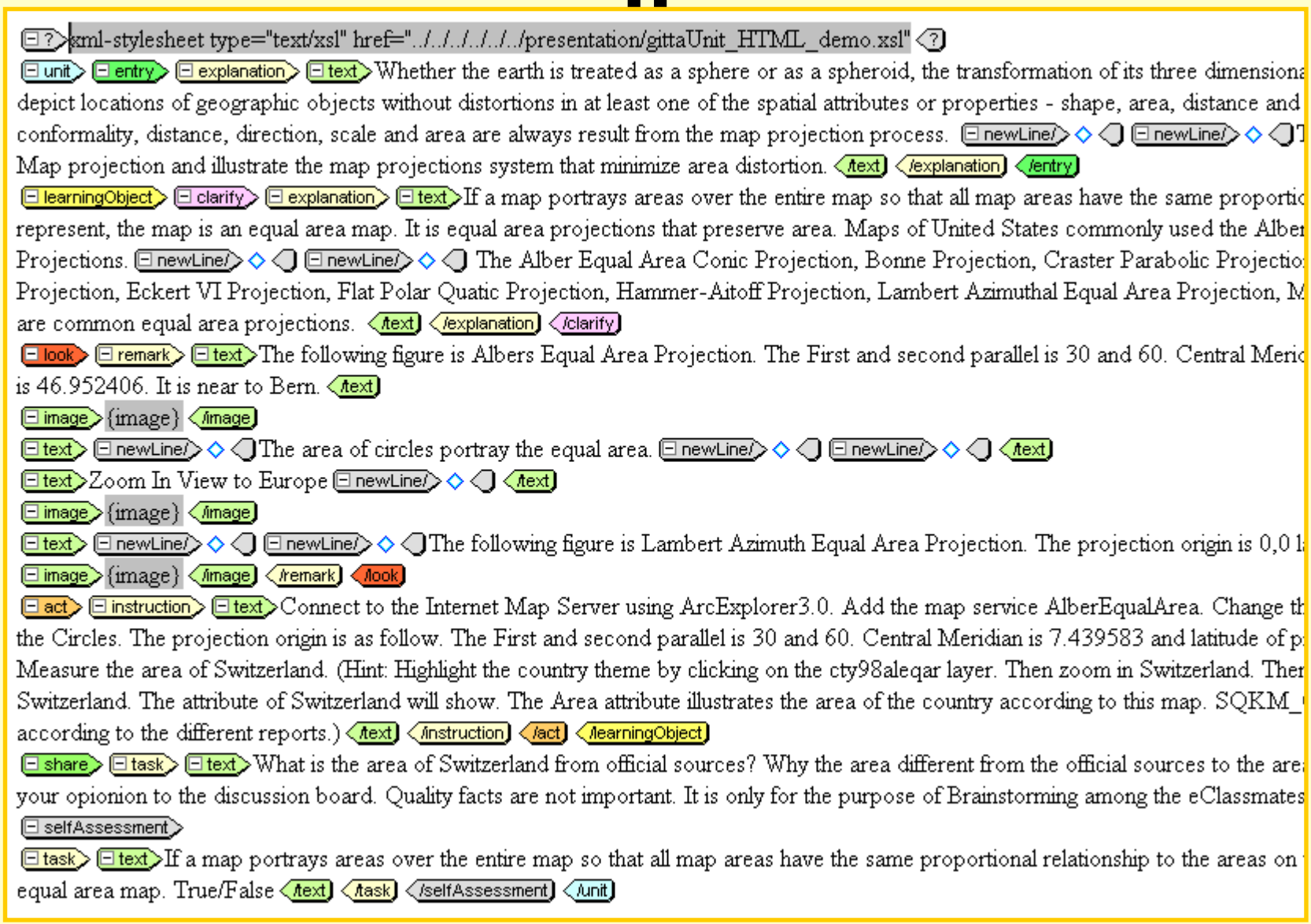
Lesson: DTD Structure



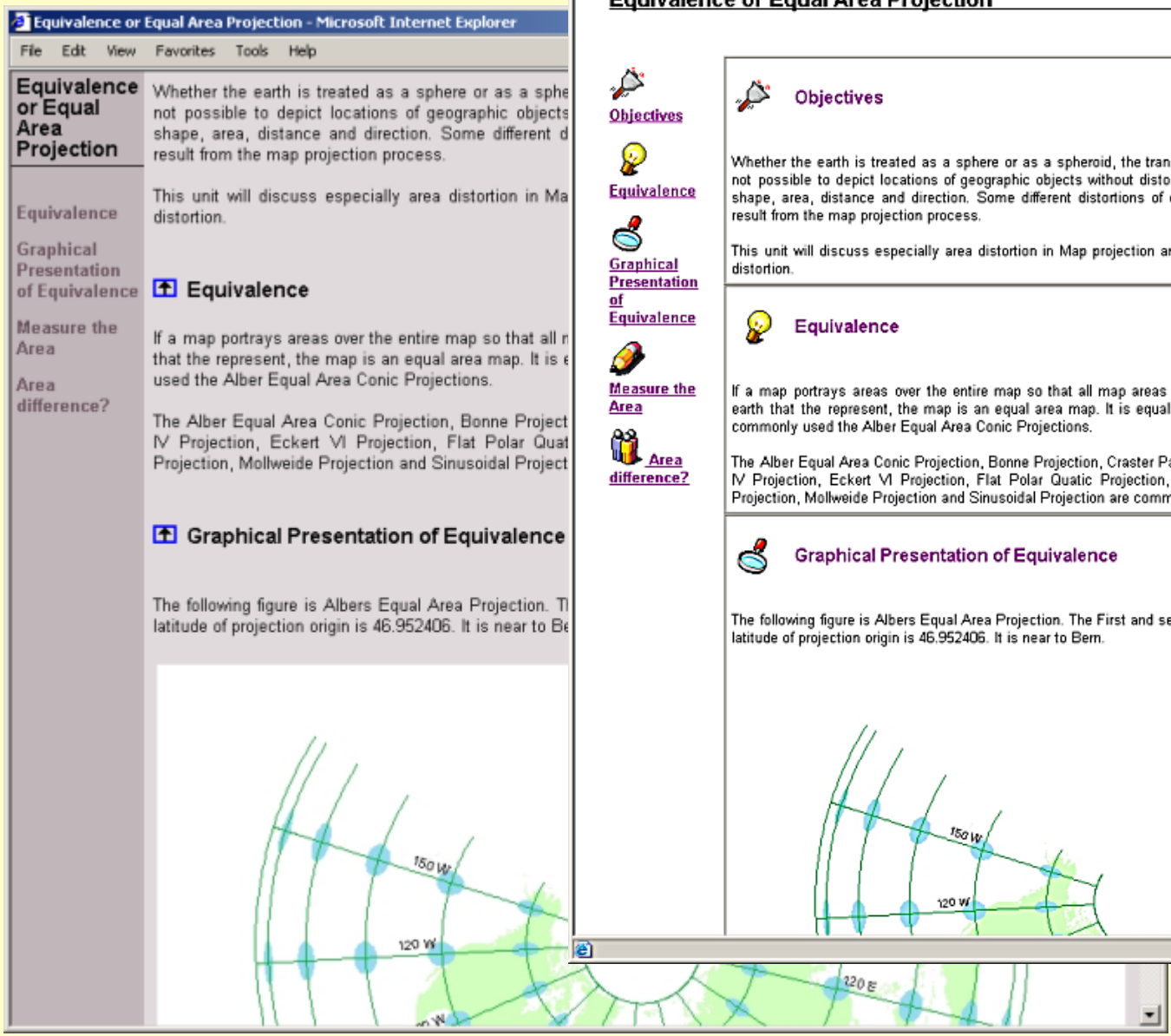
Unit: DTD Structure

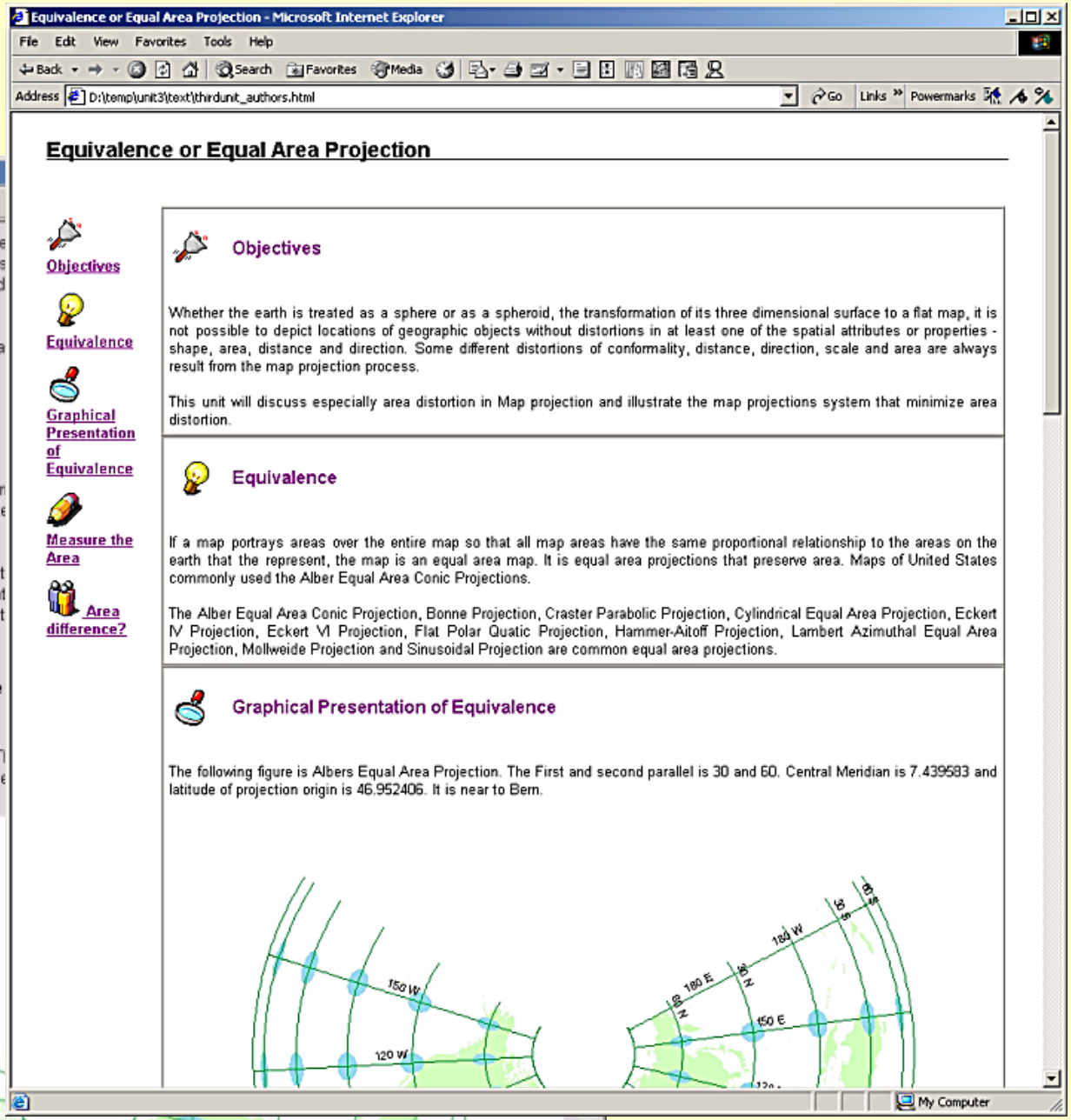


XML – how the author sees it



Examples of different styles

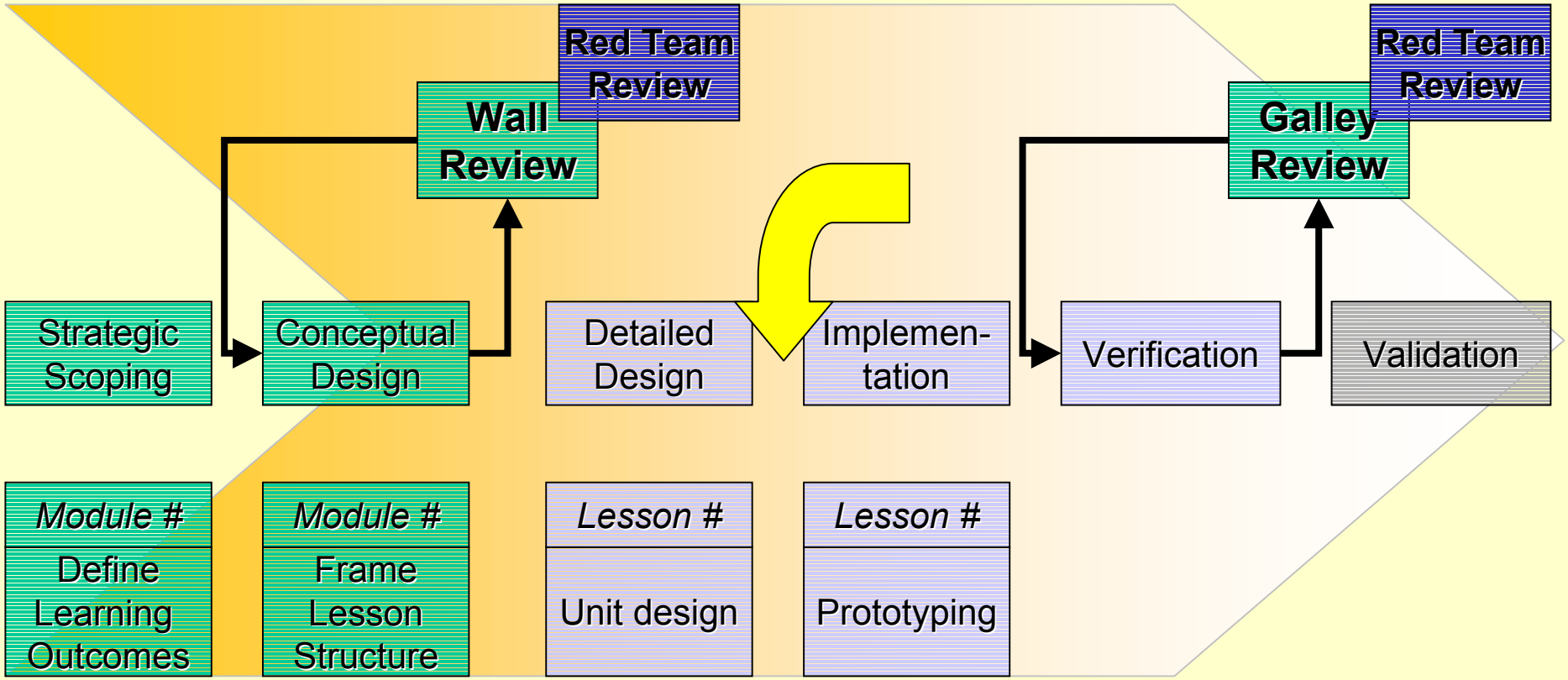




Conclusions

- Concurrent development of didactical and technical structures proved fruitful
- Authors appreciate the development tools provided and the clear cut rules for the creation of content

Outlook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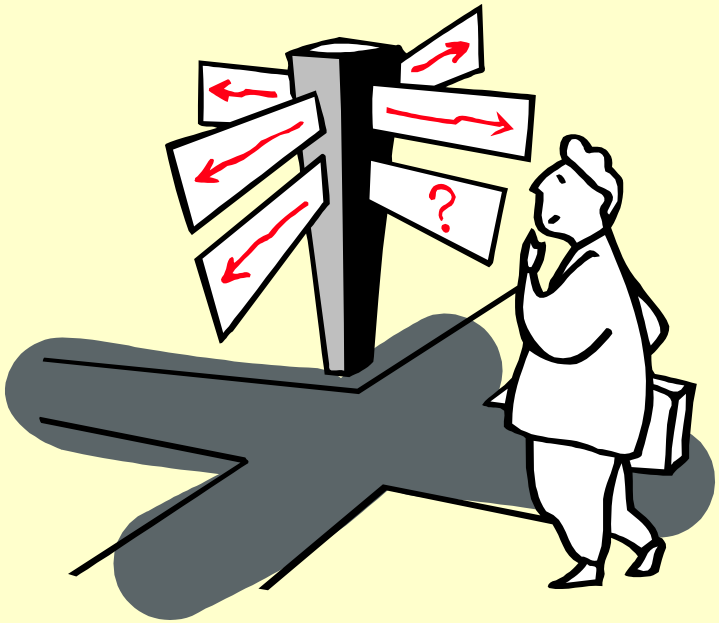
Outlook

- Decision about E-Learning platform
  - Postponed due to advantage of flexible handling of XML-based content
  - Expected summer 2002
  - Quizzing raises need for administrative platform
  - CMS
  - OpenUSS, OLAT, ...

Questions ?



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