Towards Content Sharing in Medical Education

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in collaboration with...

- **the IntraMEDnet consortium**
  - University of Cyprus
  - General Hospital of Paphos
  - Democritus UTH, UoPatras, UNINA

- **the WideMEDnet consortium**
  - UCY, AUTH, UoPatras, GHP, TUC

- **the mEducator consortium**
  - 14 partners from 10 countries
  - Lead: AUTH
in collaboration with...

- P. Bamidis, AUTH
- S. Konstantinidis, AUTH
- C. Pattichis, UCY
- M. Papaioakeim, DUTH
- V. Vargemezis, DUTH
issues & challenges

- ever expanding medical & biomedical information
- overspecialization in disciplines and, thus, teachers
- a need to move from disease-based towards a patient centered approach
contemporary medical education

trends & approaches

- alternative medical education methodologies:
  - active, self-directed, student-centered, experiential, learning
  - problem/case/task/inquiry/role/game/... based learning

- technological support:
  - information technologies to harness information explosion and support teaching and e-learning
information technology & medical education

- information dissemination
  - electronic textbooks, atlases, medical & biological databases, scientific press, ...

- achieving knowledge & understanding
  - creation, management and dissemination of digital teaching file collections (e.g. virtual patients)
  - self-evaluation tools and processes
  - mediation of teacher-learner communication
facts & challenges in medical education

**facts:**

- medical and biomedical information, knowledge (basic & core) is ever expanding
- medical disciplines become increasingly overspecialized
- medical educators become increasingly overspecialized

**challenges:**

- how to provide expert knowledge in remote institutions
- how to provide more audience to overspecialized educators located at remote institutions
- how to communicate and exchange (not only knowledge but also) expertise in skills and competences
our approach

use information technology to support medical academic institutions across Europe to exchange:

- overspecialized educational material
- overspecialized expert instruction
R&D EU Project IntraMEDnet

IntraMEDnet: A Mediterranean Research and Higher Education Intranet in Medical and Biological Sciences

- 2006-2008
- ~1.200.000 M€
- 6 partners from 3 EU countries

R&D grant under:

- INTERREG III B ARCHIMEDE
- EU Community Initiative
- Co-financed by the European Regional Development Fund (ERDF)
IntraMEDnet approach

- develop and share individual educational modules
  - self contained educational units
  - with well specified educational objectives
  - thematically targeted and overspecialized
  - developed by overspecialized experts
  - available for sharing over the web
educational module repositories

- detailed descriptive information for each module
  - author - copyright - life cycle
  - educational goals, outcomes, content, teaching methods, workload, etc
  - context, instructions of use

- complex educational module
  - text, presentation, exams, discussion, video, chart, data, etc

- offered via generic web-based, SCORM compliant, Learning Management Systems (LMS)
partner institute 1

partner institute 2

partner institute 3

partner institute 4

partner institute 5

isolated servers & manual search/retrieve
educational material available at

DUTH educational material

http://iris.med.duth.gr/elearning/

based on moodle (http://www.moodle.com)

partner sites:

http://moodle.cs.ucy.ac.cy/
http://www.e-bit.gr/moodle/
http://143.225.233.107/moodle/
http://kedip.med.auth.gr/lomiedu
IntraMEDnet approach

expert instruction is also considered as a good to be exchanged !!!

thus, the IntraMEDnet approach supports:

- remote instruction of students in active learning
- collaboration of remote experts for active learning sessions development and deployment
- monitoring of progress in attaining skills and competences
supporting active learning

for example, problem based learning

- develop educational problem in a wiki – various remote teachers can collaborate
- initiate discussion via problem’s blog/forum
- students search for solution/knowledge via the web (and not only)
- students collaborate to solve the case via wiki
- activities & progress in terms of achieving scientific competences and skills are recorded in personal blogs
Hello everybody!

I'm on line every evening, (usually,) and sometimes in the morning at work. I use either a dial up, or a DSL connection. It depends on where I am at that moment. I have more time available during the weekends, apart from those days that I'm on duty. Finally, I would work in this environment almost every day.

Hi all,

I am Frantzidis Christos.

I am connected to the Internet whenever I work each morning in the Medical Informatics Lab. I am available till the late evening. I can visit this page almost every day from Monday till Friday but not at the weekend.

1η Ομάδα (Βεγουδάκης, Φραντζίδης, Κωστελίδου)

2η Ομάδα (Κωστόπουλος, Αδάλαγλου)

3η Ομάδα (Μαλινδρέτος, Ντάφη)
further work

towards a federated architecture of distributed educational module repositories

- flexible & adaptive module description scheme
- dynamic establishment of federated web repositories
- educational module discovery and retrieval mechanisms
- means to evaluate, rate, renew & repurpose educational modules
- rules of engagement/collaboration, based on the notion “use content as long as you provide content”, and vice versa
IntraMEDnet goes WideMEDnet

a first attempt towards automated content sharing

via moodle networks feature

E. Kaldoudi - DUTH - 2008
mEducator:
Multi-type Content Repurposing and Sharing in Medical Education

- Best Practice Network
- eContentplus 2008
  Digital Content & Cognitive Systems, Information Society and Media Directorate-General
  European Commission

- κοινοπραξία 14 φορέων

- διάρκεια 3 ετών - ~4,5 M€

- lead partner: ΑΠΘ   ΕΥ: Π. Μπαμίδης
goal 1: metadata description scheme

- include all types of learning objects
  - conventional, active/experiential, algorithms, simulators, user generated, etc.

- extend existing standards for learning object description
  - LOM
  - Healthcare LOM (medbiguities)

- accommodate
  - multilanguage
  - multicultural issues
  - evolution - mutation
2 different approaches for sharing

- loosely coupled LCMSs
  - via mashup technologies
- federated architecture
  - semantic web services
federated architecture
acknowledgements

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