Social Networking for Learning Object Repurposing in Medical Education

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medical education facts & challenges

- medical and biomedical information and knowledge is ever expanding
- medical disciplines become increasingly overspecialized
- medical education includes both theoretical instruction and clinical apprenticeship

thus, medical education is based on a broad range of learning content, which, nowadays, is in its most part is also available and distributed digitally
medical education “content”

refers to educational material with a registered history of creation and evolution

- linked with
  - specific educational goals and objectives
  - learning outcomes
  - educational contexts/settings

- recommended with
  - certain teaching methods & strategies types
medical education "content"

content can be anything,

as long as it is properly accompanied by a clear description of

- what objectives it meets
- what learning outcomes it envisages
- how is it supposed to be taught
- how is can be assessed
- ...

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learning content in medical education

- produced by a variety of sources:
  - basic research outcome
  - accepted scientific knowledge
  - clinical practice

- addresses a variety of learning/teaching approaches
  - conventional teaching material
  - content for active learning experiences: case/problem/role/inquiry/... based learning
medical learning content types

- conventional content
  - lecture notes, books, exam questions, practicals, scientific papers, graphs, images, videos, ...

- content types unique in medical education
  - teaching files, virtual patients, evidence based medicine forms, objective standard clinical examinations, anatomical atlases, ...

- alternative educational content types
  - reflecting active learning techniques and new technologies: didactic problems, wikis, forums, web traces, ...

- user generated content
  - reflecting user interaction with learning content
content repurposing and reuse

considering the state of the art nature of medical educational content, it is imperative that such content is

- repurposed
- enriched
- re-used

so as to be embedded effectively in medical curricula, continuing medical education and public awareness
content repurposing

changing a learning object
  initially created and used for a specific educational purpose in a specific educational context,

in order to fit
  a different purpose in the same or different educational context
content repurposing types

(1) in terms of the actual content
  ➤ add or mutate content of a learning object
  ➤ integrate or fuse content from different objects
  ➤ re-organize existing content

(2) re-purpose to different languages
  ➤ crucial as medical knowledge has to be conveyed to the public as well

(3) re-purpose to different cultures
  ➤ mainly account for different legislation, medical regulations, lab test norms, reference values, units, requirements for different groups
content repurposing types

(4) repurpose for different pedagogical approaches:
   ◂ from conventional lecturing to active experiential learning (and vice-versa)

(5) re-purpose for different educational levels:
   ◂ to match different prerequisites for undergraduate, postgraduate, residents, specialists, life-long professional training, public awareness

(6) re-purpose for different disciplines and professions
   ◂ ranging from medicine, and nursing to lab technicians, basic life sciences, to bioengineering and informatics, and even to healthcare administrators etc.
content repurposing types

(7) repurpose to different content types:

- change a learning object from one type to another

(8) re-purpose for different technology:

- digital format, digital size and quality, metadata description scheme, computer platform, etc

(9) re-purpose content created for a different purpose to content used for education

(10) re-purpose for people with different capabilities

  e.g. from written to spoken, etc (for people with special needs)
why bother with studying repurposing

- automatically re-purpose learning objects
- keep track of a learning object evolution
  - credentials to contributing individuals
  - IPR issues
  - update a learning object (or a fragment of it)
- a different view in learning objects search: via associations created during repurposing
current approaches

- automatic repurposing of a specific type of learning content (e.g. re-organizing presentations)

- ontology based learning object management for retrieval and re-use, using metadata describing learning objects
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our proposal

address content repurposing by following current trends and emergent paradigms:
- web 2.0 and social networking
web 2.0 emergent behaviors

- sharing
- participation
- personalization
- collaboration
- agility
- re-use
- apomediation

web 2.0 applications and tools
wikis, blogs, podcasts, RSS feeds, mashups, social networking websites, folksonomies, virtual world environments

basic web and internet infrastructure
HTTP - TCP/IP

‘web 1.0’ technology
Dynamic HTML, XHTML, XML, XSLT, CSS, DOM, JavaScript, AJAX, ...

service oriented architectures & web services
XML/SOAP, REST, ...

additional protocols & standards
RSS, ATOM, FOAF, XFN, ...

(online) social networking

(online) grouping of individuals in specific groups

- via social web sites
  - individuals can see others' profile, share interests, communicate, interact
  - individuals interconnect via common interests and declared relationships

- dynamic evolution of the community

- emergent, user generated organization, as opposed to predefined structure

- examples: facebook, delicious, biomedexperts, ...
social networking of educational content

two distinctive and interacting social networks

- network of persons:
  - authors
  - potential authors
  - perspective users of learning objects (e.g. students, teachers, education managers, etc)

- network of published learning objects:
  - profile including a variety of tags that describe the object and re-purposing
LO profile tags

- author and author details
- date of creation
- keywords (free user defined tags)
- language
- description (free text, that may contain user defined tags)
- type (text, type, exercise, simulation, didactic problem, etc)
- intended user role (teacher, student, etc)
- audience level
- audience profession
- audience culture
- copyright
LO social networking

- via (author defined) tags
- via comments and blogging
- via repurposing history
  
  use the

  “I am a friend of” and “my friend is”

  relationships of a social network to describe

  “repurposed from” and “repurposed to”
pilot implementation

- based on Elgg open source social engine
  - [http://elgg.org/](http://elgg.org/)
  - allows creation of ones' own social network
  - features plug-in architecture
  - supports a number of open standards (RSS, LDAP, OpenID, FOAF, and XML-RPC)
  - technical features: Apache web server, MySQL and PHP


(to be moved to: [http://metamorphosis.med.duth.gr/](http://metamorphosis.med.duth.gr/))
DUTH - mEducator - Educational Content Repurposing

This site is under construction for the project mEducator. Please do not try to access it if you are not authorized.

For any questions contact medialabtech@med.duth.gr

Latest activity

- [Nikolas Doyrolis](#) is now repurposed from [0067: System Security](#) (28 days ago)
- [0067: System Security](#) is now repurposed from [0066: System Security](#) (37 days ago)
- [0067: System Security](#) updated their profile (37 days ago)
- [0067: System Security](#) updated their profile icon (37 days ago)
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0067: System Security

Identifier: LO0067
Author Surname: Kaldoudi
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Country: Greece
Object Title: Θέματα Ασφάλειας
Date: 11-10-2008
Keywords: Computer Systems, Security, Firewalls, Viri, Computer Threats
Language: greek
Description:
A presentation used for teaching computer security to first year undergraduate's in School of Medicine, DUTH.

URL:
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DUTH.

URL:
   id=499

Type: lecture

User Role: Teacher, author, learner

Audience Level: undergraduate

Audience Profession: medical

Audience Culture: n/a

Copyright: free for educational purposes

Type of Repurposing: format, target audience, length

Recent bookmarks -

Repurposed From -

Message board -

File widget -

We couldn't find any files at the moment
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Repurposed To

0045: ICT in Surgery

Repurposed From

0852: ICT in Surgery

Define source objects
work in progress

- work on graphical representation for browsing the social network
- populate the network with objects
- observe evolution of network and comment on findings
work done partly within mEducator

project title: mEducator: Multi-type Content Repurposing and Sharing in Medical Education

project type: Best Practice Network

programme: eContentplus
Information Society & Media Directorate General, European Commission

contract: ECP 2008 EDU 418006

duration: 2009-2012

consortium: 14 partners from 10 EU countries, lead by AUTH (GR)

budget: ~4,500,000 €

website: http://www.meducator.net/