Sharing and Linking Medical Educational Resources on the Semantic Web – The MetaMorphosis Network Experience

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Semantic Web aka Web 3.0

• Semantic annotation of metadata using RDF

• Converting data into entities on the Web creating a graph with data for nodes and properties for edges

• Establishing a global naming scheme with URIs and Ontologies
Semantic Web aka Web 3.0

• Making data accessible and meaningful to machines and humans

• Existing knowledge can be easily semantified and repurposed

• New powerful tools for faster and wider searches – automation
Open Linked Data

• Sir Tim Burners Lee: “The semantic web done right”

• Not just linking pages but the actual data

• Data from various sources that share common semantics via URIs
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, e.g.
  – conventional teaching
  – active learning experiences:
    case/problem/role/inquiry/… based learning
  – …
医疗学习内容类型

- 常规内容
  - 讲义笔记、书籍、考试问题、实践、科学论文、图表、图像、视频等

- 医学教育中独特的内容类型
  - 教学文件、虚拟患者、循证医学形式、客观标准临床考试、解剖图集等

- 另类教育内容类型
  - 反映活跃学习技术及新技术：教学问题、Wiki、论坛、网络痕迹等

- 用户生成内容
  - 反映用户与学习内容的交互
considering the state-of-the-art nature of medical educational content, and the coverall cost to create it, it is imperative that such content can be:

- enriched
- repurposed
- re-used

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

basically 2 social networks intertwined

• one formed by actual people (authors, teachers, students, end users)
• one formed by content items

with rich interactions within each network and across the two networks
interactivity for humans

- declaration of “friends”
- personal blogs
- personal content libraries
- creation of groups
- private and group messaging
- ...

DUTH
interactivity for content items

• 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”
the implementation

• based on the ELGG open source social network platform modified for the incorporation of the second network of learning objects
• Semantified metadata using RDFa and SPARQL endpoint for triples
30 Latest Resources

There are currently 259 Educational Resources (44 repurposed)

Vaccination against HPV and cervical cancer brochure for Russia
Created by: Philip Davies (23 days ago)
This resource contains text and illustrations presenting a summary of a) the risk of cervical cancer, b) the role of the HPV in cervical carcinogenesis, c) the mechanism of action of the HPV vaccines, d) the role of the HPV vaccines in reducing the risk of cervical cancer and e) the recommendations for the use of the HPV vaccines in Russia. It is intended to support healthcare providers in the region to educate their patients about cervical cancer screening.

Language: Russian
Keywords: Вакцинация, ВПЧ, рака шейки

Follow up of an abnormal Pap smear brochure for Russia
Created by: Philip Davies (23 days ago)
This resource contains text and illustrations presenting a summary of a}
the ELGG platform

http://elgg.org/

– open source social network platform
– 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
latest statistics

• Over 300 educational resources
• 60+ repurposed
• 70+ registered users
work done 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 9 EU countries, lead by AUTH (GR)

budget: ~4.500.000 €

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