Creating Medical eLearning Resources through Repurposing Procedures, Social and Semantic Web Functionalities

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Outline

• Repurposing

• Repurposing types

• Challenges

• Proposed solution
  ▫ Metamorphosis+
  ▫ mEDIS

• Conclusions
Repurposing

• create new, improved and highly adapted teaching resources based on previously created learning materials

• a repurposing activity is described by:
  ▫ parents – resources that are repurposed
  ▫ repurposing context – what type of changes are applied
  ▫ repurposing description – how are the changes applied
Repurposing types identified in mEducator (1)

- Changes in the content itself
  - modify some of the text, images or other components of the resource(s)
- Repurposing to different languages
  - translate and adapt the materials to a new language
- Repurposing to different cultures
  - adapt presented data to the cultural background of the targeted audience
- Repurposing for different pedagogical approaches
  - change learning material to present same notions in a different pedagogical approach: ex. for simple presentation to problem based learning
- Repurposing for different educational levels
  - adjust the prerequisites and desired outcomes of the learning resource
Repurposing types identified in mEducator (2)

- Repurposing for different disciplines or professions
  - replace the elements specific to the initial discipline, with the ones of the new discipline
- Repurposing to different content types
  - replace text elements with images, videos with 3D representations etc.
- Repurposing for different technology
  - change the user interaction from text-based to graphical annotation based
- Repurposing for people with different abilities
  - adapt the materials for visually impaired people by improving accessibility
- Repurposing to Educational Content
  - transform data obtained from experiments for didactical purpose
Challenges

- identify valuable materials for repurposing
- retrieve the chosen resources
- reuse and repurpose resources
- describe repurposing actions taken
- publish the new created resource for others to use & repurpose
Metamorphosis+: identify resources

• part of mEducator 3.0 semantic web network

• provides complex functionalities for
  ▫ resources metadata description and management in mEducator schema format
  ▫ social relations between users and/or learning resources
  ▫ semantic and social enabled/enhanced resources search

• complete description of the repurposing process
Metamorphosis+: identify resources

Teacher

Student

mEducator Metadata Schema

SESAME RDF STORE

RDF

Linked Open Data Cloud
mEDIS: create new resources through repurposing

- tools based environment for developing teaching resources
- support for distributed resources access
- meta-design oriented application for medical professionals
- provides functionalities for user interaction customization (adapt user interaction techniques to the specificity of each content type)
mEDIS: create new resources through repurposing
mEDIS: create new resources through repurposing

Pictures

Videos

Documents

HTML

3D Objects

Sounds

Other multimedia content
mEDIS: create new resources through repurposing

General presentation of internal organs
Metamorphosis+: describe the new resource
Metamorphosis+: describe the new resource
Metamorphosis+: describe the new resource
Conclusions

• using social and semantic web functionalities relevant resources can be identified more easily

• through mEDIS, medical specialists without technical knowledge can reuse existing learning resources, even from distributed sources, and have the possibility to create new materials through repurposing

• through repurposing information one can provide better description for the new resources
Questions?

Thank you!