

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

Teodor Ștefănuț¹, Dorian Gorgan¹, Nikolas Dovrolis², Eleni Kaldoudi², Stefan Dietze³

¹ Computer Science Department, Technical University of Cluj-Napoca, Romania

² School of Medicine, Democritus University of Thrace, Alexandroupoli, Greece

³ L3S Research Center, Germany & The Knowledge Media Institute, The Open University, Milton Keynes, UK

Abstract: The creation of new, high quality eLearning resources is most of the time a very complex process that requires elaborate planning, long implementation time and the involvement of both medical and IT specialists. Addressing these issues, research and educational communities in medicine have studied different approaches for maximizing the quality of the resources while maintaining the costs at a low level. Most promising solutions used at present involve materials sharing between different content providers (either automatically or based on human content editors) and the creation of new resources based on already existing ones, in an approach named repurposing.

One of the key steps in this approach is the identification of relevant and high quality resources. As this is not a trivial task, we present a method of describing, evaluating and recommending the best materials through social interactions and Semantic Web functionalities. In our solution each resource is described through a social profile encoded in RDF format that is later enriched with semantic connections based on different medical ontologies (Mesh, Snomed, etc.). For describing the resources, both on social and semantic level, we are using mEducator 3.0 which uses the mEducator schema for data modelling and repurposing history description.

Another major issue in developing medical eLearning resources is generated by the fact that most of the medical specialists that are creating teaching materials do not have a thorough technical background, so they require the assistance of an IT specialist. As an alternative, we are presenting MEDIS, a meta-design oriented application that provides specialized tools for data retrieval, visual presentation management, user interaction settings and resources repurposing. Through simple, dedicated interfaces, medical specialists can integrate in the same resource images, videos, texts or 3D resources, from remote locations over the Internet, without having specialized technical knowledge.