Employing Social Semantic Information Sources for e-Learning

Jarosław Dobrzański
DERI, NUI Galway, Ireland
jaroslaw.dobrzanski@deri.org

Abstract

For a long time, the Internet has been playing a great role in our lives; it entertains but also educates. There are a lot of blogs, wikis, fora, social bookmarking and social media services. Collectively called online communities, they create networks where users can feel free to band together: share ideas and opinions, publish links and works and comment them. In fact, online communities live by virtue of collaborating users. There are a lot of blogs and wikis covering specific domain of interest; they are treasuries of knowledge in that domain. Thus, online communities are powerful source of informal knowledge.

1. Introduction

Informal learning is unorganized and not formally defined; it is a natural way of gaining knowledge, just like one learns to speak. It has no curriculum and is not professionally organized; it is not a planned pedagogically conscious; we often learn this way unconsciously by chatting with friends at work or school, reading online resources or watching documents.

2. Social Semantic Information Sources

Online communities are popular because of the simplicity of their ideas: to allow users to collaborate and share; then observe what happens. As a result, they arose as source of informal knowledge.

However, the data there are not organized; it is difficult to find relevant information or browse the content. By introducing semantic annotations of the resources, they become easier to navigate, browse and querying. Consequently, their potential grows, which suits e-Learning purposes [1]. Semantics makes online communities Social Semantic Information Sources (SSIS); not only do they benefit from Web 2.0 but also they introduce the potential of the Semantic Web.

3. IKHarvester

Currently, I am working on IKHarvester (Informal Knowledge Harvester). This system aims at giving access to data from SSIS; allows knowledge harvesting from SSIS and provides it in a form of Learning Objects. Initially, IKHarvester is supposed to be used by Didaskon [2], a Learninig Management System (LMS) which composes on-demand curriculums from existing learning objects provided by e-Learning services (formal learning) and SSIS (informal learning).

3.1. Harvesting knowledge

At the moment, IKHarvester allows collecting data from semantic blogs, semantic wikis and JeromeDL [3], a Social Semantic Digital Library. All relevant semantically annotated metadata for these resources are stored in a repository. From this data, informal LOs are created and passed to Didaskon.

To collect information, IKHarvester uses the Semantic Web, RDF data exporters available on semantic web pages, in addition to pages content scraping.

3.1. Providing knowledge

Information stored in the repository can be delivered to Didaskon by calling Web Services. However, the data to be provided must be standardized to a common model. Since IKHarvester is dedicated to LMSs, it is reasonable to represent it with LOM ontology.

As a result, Didaskon, using the user's preconditions, creates a curriculum by combining formal and informal Learning Objects.

4. Future work

Current version of IKHarvester derives from only few SSIS. To make it more effective, it is necessary to improve it so that IKHarvester can create Learning Objects from bookmarks (del.icio.us), video (YouTube) and photo (Flickr) sharing services.

5. Acknowledgements

6. References

[1] T. Woroniecki, A. Westerski, C. O'Nuallain, S. R. Kruk, K. Samp, "E-learning based on the Social Semantic Information Sources", Submitted to ISWC, 2006.
[2] Didaskon project home page, http://didaskon.corrib.org
[3] JeromeDL project home page, http://jeromedl.org