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SUPPORT OF ACQUISITION AND ORGANIZATION OF KNOWLEDGE ARTIFACTS IN INFORMAL LEARNING CONTEXTS

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Learning takes place in formal and informal contexts. In contrast to formal learning, where institutions or authorities like teachers set learning goals and provide didactically and instructionally prepared content, informal learning depends on the learner's interests and needs. Therefore informal learning contents are often collected and organized by learners themselves. As the internet provides an abundance of content that may be used in informal learning, we focus on web documents as a source for knowledge artifacts in this paper.

Especially novel Web 2.0 applications provide informal learning contents and knowledge artifacts that are often more up to date than formal contents, because even people with few technical skills are able to consume and produce content. Thus the amount of available informal learning content is growing exponentially. But due to the enormous pool of freely accessible data, research, identification and organization of relevant content are difficult. Conventional learning applications and Learning Object Repositories are not able to handle loosely coupled knowledge artifacts and are therefore not appropriate to support informal learning.

That is why researchers are developing Semantic Desktops supporting personal knowledge management. These applications enable organizing knowledge by allowing to build individual knowledge representations. As organizing the resulting knowledge bases needs a personal information management ontology that presets the structure, adaptation to new learning contexts is difficult.

Further, Personal Learning Environments are designed to support individual lifelong learning tasks. They are adapted to learner's needs and allow access to materials to achieve self-set learning goals. They provide possibilities for communication of and collaboration by creation of knowledge artifacts. A big drawback is that they do not implement knowledge management principles.

A third approach, e-portfolios, serves to accompany and record learning processes, but is not intended for learning, rather for displaying and tracking academic achievements.

Our vision is to integrate Personal Learning Environments with knowledge management techniques towards an open framework that utilizes the power of community. The target application takes into account Web 2.0 principles in order to provide additional value by enabling a wide range of opportunities for collaboration and communication among learners in similar situations with the same learning goals.

In this paper we lay the foundations for the implementation of such an application. First we discuss basic technical and theoretical issues concerning informal and formal learning using quickly accumulating, freely available knowledge resources on the web. We present a real-life, online information research scenario of the typical quickly changing tasks and task contexts a knowledge worker has to cope with and deduct functional requirements that lead to a model of knowledge acquisition and management phases that need to be supported, Further we present several existing applications – including Semantic Desktops, Personal Learning Environments and E-Portfolios – that address the requirements informal learning tasks lay upon organization and handling of learning resources and processes. Then we introduce a specification of a browser-based application that integrates seamlessly into learners' daily information research and knowledge artifact organization tasks. Finally we identify requirements for possible technical architectures that enable generic personal knowledge artifact management and draw out further work that has to be done to design and implement an approach that combines functionality of the applications mentioned as related work.