Informatik-Oberseminar

Fachgruppe Informatik

Lehr- und Forschungsgebiet Informatik 9

RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN

EINLADUNG

Zeit: 10, 00 Uhr

Ort: Hörsaak AH IV, Ahornstr. 55

Referent: Dipl. Inform.
Patrick Stalljohann

Titel: A generic platform for Open Assessment Management in Higher Education

Abstract:

Solving tasks in everyday life and work requires continuous learning of facts, processes, and related skills. This is a lifelong process. On the one hand there are informal learning activities, i.e. they are happening unplanned during a normal activity. On the other hand, the first quarter of a human live is strongly affected by formal learning, e.g. in schools or at university. With the increasing use of Web 2.0, its possibilities for knowledge acquisition, communication, and collaboration facilitates the creation of personal learning environments. While these approaches mostly affect informal learning scenarios, their usage in formal settings is an open research question. A more specialized research topic in the context of combining formal and informal learning focuses assessment, the evaluation of learning activities, which takes an important part of formal learning.

Several methods for electronic support of assessment are in use for several years. Related software systems for the management of assessments are available and in use, but the integration of common services from the internet is still an open research question. Especially, the combination of different forms of assessment is difficult. In this context, the thesis at hand tries to cover the question, how the management of assessment scenarios in higher education can be supported technologically, with respect to traditional and new forms of assessment. The main objective of the related project was to build a web-based platform, which provides modular extensible support mechanisms for assessment management as a central service for different courses. This platform is called AMSeL (Assessment Management Services in eLearning systems).

A major problem with present assessment systems is that they are either too generic or too specialized. Generic systems provide basic support of assessment processes regardless of their domain, so that this kind of support is methodically limited. Specialized assessment systems provide extensive support for a specific type of question

or a single domain. Therefore, current systems are especially not applicable to new forms of learning, e.g. informal learning or self-directed learning.

A new approach for technology enhanced assessment, which also allows application of current and new assessment and feedback processes to new forms of learning has been developed. Thus, it is discussed, how current assessment systems have to be extended or improved to support informal and self-directed learning as well. Especially, self-direction requires intelligent feedback. With the discrepancy of current generic and specialized assessment systems, the new approach demands the development of an architecture, which allows the integration of specific services into a generic platform.

These requirements have been used to build a modular software design, which takes account of incrementally growing requirements for a centralized service in a heterogeneous environment. A *Software-as-a-Service (SaaS)* architecture has been realized based on portal technologies to allow modular extension of functionality and integration of services. The implementation of *AMSeL* and its modules has been realized with portal technology mechanisms and techniques. Modules for assignment management, assessment of wiki contributions, the integration of cloud services to formal assessment processes, management of results and grading criteria, and others have been realized. In conjunction, they show how different forms of assessment can be combined in a whole assessment management platform. In this way, the advantages of the flexible service-oriented architecture have been demonstrated. As a result, the integrated and powerful assessment management platform *AMSeL* has been realized as a reference implementation. This platform provides currently unique enhancements related to present assessment systems. It especially addresses the emergent importance of new learning forms as well as social media services in the context of institutional assessment in an unprecedented way.

Es laden ein: Die Dozenten der Informatik