



# Mash-Up Personal Learning Environments (MUPPLE'08)

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*Workshop in Conjunction with the  
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Learning Environments  
(MUPPLE'08)***

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## Editorial

A change in perspective can be certified in the recent years to technology-enhanced learning research and development: More and more learning applications on the web are putting the learner centre stage, not the organisation. They empower learners with capabilities to customize and even construct their own personal learning environments (PLEs). These PLEs typically consist of distributed web-applications and services that support system-spanning collaborative and individual learning activities in formal as well as informal settings.

Technologically speaking, this shift manifests in a learning web where information is distributed across sites and activities can easily encompass the use of a greater number of pages and services offered through web-based learning applications. Mash-ups, the 'frankensteining' of software artefacts and data, have emerged to be the software development approach for these long-tail and perpetual-beta niche markets. Core technologies facilitating this paradigm shift are Ajax, javascript-based widget-collections, and microformats that help to glue together public web APIs in individual applications.

In a wide range of European IST-funded research projects such as iCamp, LTfLL, LUISA, Palette, Prolix, and TENcompetence a rising passion for these technologies can be identified. This workshop therefore serves as a forum to bring together researchers and developers from these projects and an open public that have an interest in understanding and engineering mash-up personal learning environments (MUPPLEs).

The aim of this workshop is to bring together the various research and development groups in technology-enhanced learning that currently focus on the development of the next generation learning environments – learning environments that put the individual centre stage and empower learners with design capabilities by deploying modern mash-up principles to establish system-spanning interoperability.

As this approach is rather young, the workshop sought to attract both research results and work in progress in order to chart out the current state-of-the-art of MUPPLEs in TEL and to define main enablers and future challenges. Naturally, it serves as a forum for establishing new collaborations.

### Summary of the Contributions

The long paper by Mödritscher, Wild, and Sigurdarson on '*Language Design for a Personal Learning Environment Design Language*' sketches a vision on learning environment design being the key to contemporary transcompetence acquisition by

treating learning environments as manipulable outcomes of learning activities that are designed for emergence. They draft a domain-specific design language called 'learner interaction scripting language' (LISL) and investigate how compliant this language is with postulated (end-user development) design principles and guidelines.

Asensio-Pérez, Bote-Lorenzo, Vega-Gorgojo, Dimitriadis, Gómez-Sánchez, and Villasclaras-Fernández propose an architecture in their short paper *'Adding mash-up based tailorability to VLEs for scripted Collaborative Learning'* and report on first prototype where a central integration manager parses IMS-LD scripts to subsequently configure, in interplay with an educator, those tool instances deployed in the foreseen activities to deliver individualised learning experiences – thereby adding openness and tailorability to otherwise static, monolithic virtual learning environments.

Fuente Valentín, Leony, Pardo, and Delgado Kloos report in their long paper *'Mashups in Learning Design: pushing the flexibility envelope'* how IMS Learning Designs can be combined with the mash-up configuration language LISL. The paper describes how the LISL language is utilized to bring the flexibility of the mash-up world into a particular learning environment, namely GRAIL, i.e. the learning design run-time environment for the .LRN platform. The concepts of micro and macro scripts are brought in from the area of CSCL to find the right balance of flexibility.

Wilson, Sharples, and Griffiths outline in a long paper on *'Distributing education services to personal and institutional systems using Widgets'* an open standards approach for creating and embedding widgets. The approach discussed is based on the W3C widget specification extended with collaboration features. The approach is demonstrated through the implementation of a widget server, called Wookie, as well as two proof-of-concept container applications in Wordpress and Moodle. The paper then shortly discusses how this kind of approach can allow institutionally maintained services to appear in Personal Learning Environments.

With their short paper, Sire and Vagner sketch a vision for *'Increasing Widgets Interoperability at the Portal Level'*. The discussion is focused on an API for capturing widget-to-widget communication in a web portal. The paper identifies two communication scenarios: human-initiated drag & drop and communication-initiated based on widget state changes.

Casquero, Portillo, Ovelar, Romo, and Benito outline in the short paper *'iGoogle and gadgets as a platform for integrating institutional and external services'* a framework on how generic mash-up platforms like iGoogle can be instrumentalized to pre-build individual PLEs. Furthermore, they discuss which generic and which institutional services could be mapped into these.

Bogdanov, Salzmann, El Helou, and Gillet discuss in their short paper *'Social Software Modeling and Mashup based on Actors, Activities and Assets'* a conceptual model for web applications. With the help of it, successfully modelled and mapped web applications can be mashed-up, i.e., combined both visually and on the data level. Additionally, the paper illustrates the deployment of this model with an example mash-up container, i.e., the eLogbook environment integrating.

Ebner and Palmér propose '*A Mashup-friendly Resource and Metadata Management Framework*'. The long paper focuses on establishing a mash-up-friendly resource and metadata management with an appropriate level of generic functionality, with which the development of targeted tools becomes a matter of user interfaces and specialisation. Already existing standards are looked upon and it is explained why they are not generic enough. An implementation of the proposed framework is presented along with a tangible use case.

Soylu, Kuru, Wild, and Mödritscher propose a '*A Learning Object Harvesting Model and a Sample Application*' in a long paper which introduces a framework for automatically extracting a proposed learning object microformat embedded in web pages with the help of XSL transformations following the W3C GRDDL specification. A simple query interface (SQL) that accepts SPARQL queries is provided in a prototype for the retrieval of the learning objects.

Vuorikari outlines an approach for '*Consolidating collections of learning resources using APML*' in a short paper, backed up by the findings in a case study on teachers' use of social bookmarking tools. This early work sketches a rough vision on how contextualized attention meta-data can facilitate a higher level integration and syndication of scattered bookmark collections.

Weber, Thomas, and Ras analyse in their long paper on '*Investigating the Suitability of Mashups for Informal Learning and Personal Knowledge Management*' how well mash-ups can be utilized for personal, informal knowledge management. Therefore, common mash-up features are mapped against PKM objectives that are grouped into seven information skills.

Attwell, Bimrose, Brown, and Barnes analyse in the long paper '*Maturing learning: Mash up Personal Learning Environments*' why and how a personal learning environment should support knowledge maturing and development. They outline a scenario and elaborate, with the help of it, a functional taxonomy of tasks to be supported. Deliberations on development approaches round up the paper.

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