Evolving a Social Networking Platform into a Smart Personalised Learning Environment (PLE) or the Other Way Around: Your Choice?

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ABSTRACT

The future of learning environments lies with the merging of the better aspects of Learning Management Systems (LMS), with those popularised in Social Networking platforms, to personalise the individual learning experience in a PLE (Personal Learning Environment). After examining the details of a particularly flexible LMS, followed by the investigation of several key data structures behind the Facebook social networking platform, this paper then demonstrates how such a merging can be done at the conceptual schema level, and presents a list of novel features that it then enables.

Keywords: Conceptual Design, Conceptual Schema, Facebook, Learning Management System (LMS), Learning System, Personalised Learning Environment (PLE), Social Network

1. INTRODUCTION

This paper investigates the fusion of social networking capabilities with those from a fine-grained Learning Management System (LMS), into a personalised learning environment (PLE), described largely in terms of a design expressed as a conceptual schema. The social network platform investigated is Facebook, which perhaps surprisingly, has several of the necessary generic structures already in place, should that company choose to pursue the emerging personalised learning environment marketplace. However, an LMS could equally be evolved, taking on aspects popularised by social networking platforms, in new ways that personalise a learner’s experience.

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1.1. Some General Background

In situating the research in this paper it is first worth noting that learning systems have advanced in parallel with similar strides in learning theory, and those in ICT (Information Communication Technology) in general. Although they are interrelated, we concentrate here on the technology side, with brief reference to some theory in learning, only when it is useful to the main research direction. We are primarily concerned with personalised learning environments (PLEs) – which are predicated on putting the student into a more central and active role in their own learning, both with regard to the design of learning materials, and the learning path or trajectory they take in using them. Such an underlying basis of PLEs makes them both more personalised and more adaptive than the typical LMS (Learning Management Systems – such as WebCT, Blackboard and Moodle, and many lesser-known products) that thousands of universities and schools have used for up to a decade now.

Tsolis et al (2011) state that ‘A traditional LMS offers to all its users the same services and content, meaning that all learners taking an LMS-based course, regardless of their knowledge, goals and interests, receive access to the same educational content and the same set of tools, with no further personalized support.’ Some envisage PLEs as an approach that will replace (or at least speed-up the evolution of) the LMS (Downes, 2010; Trolis et al, 2011). According to Downes: ‘the typical LMS is static, declarative, authority-based’ whereas ‘a personal learning environment is learning through community; a PLE is a technological tool that allows us to do (that)’. According to Trolis et al: they are ‘extending the capabilities of a traditional open source LMS (Moodle), into (their) proposed OWLearn system … an adaptive, personalized and open source e-Learning system’ – yet that paper is little more than a wish-list of the features they want to see realised in it, with little in the way of design or specification toward achieving it. Others see a merging of PLEs and LMS into something new beyond either (Mott, 2010). According to Mott: ‘the LMS has become a symbol of the status quo that supports administrative functions more effectively than teaching and learning activities’; and that ‘PLEs offer an alternative ...but with their own limitations’ including security and reliability. Mott believes the two approaches should and can be mashed up into ‘open learning networks’. Mott presents a good comparison of the strengths and weaknesses of both the LMS and the PLE, as he sees them.

The concept of a PLE preceded the arrival of well endowed tools to demonstrate it, and as such there is some variation around the edges of what a PLE is, or should be. Attwell (2007) believed that the tools were already available. He believed that the software applications many people use regularly, together with the services they call upon, could be aggregated to enact a PLE just by changing the mindset of both students and teachers toward personalised learning. His example application tools included: the word processor, Keynote (for presentations), Net Newsreader, Garage Band (for podcasts) and iMovie (for video editing). While his example range of existing services that could be folded in included: Skype, Delicio-us (for sharing bookmarks), Flickr (for sharing photos), and Joomla (for creating web sites). ‘It was not a software application, instead it was more of a new approach to using technologies for learning... by the net-generation’.

Downes (2005) was happy with the blogging tools of the day – e.g. Blogger and WordPress – but he saw a further need for some automation in the way that these page islands of output by creative, active learners could be interrelated. Initially, the RSS aggregator (of newsfeeds from blogs in RSS format) was Downes’ early answer to that automation, in what Mott called ‘the PLE (is) the educational manifestation of the webs “small pieces loosely joined”’ - incorporating a quote from Dave Winer, the inventor of RSS.

Some researchers took that early optimism about available tools and services, and put it upon their ‘net-gen’ students to ‘put students in a more central position in the learning process by allow-