Chapter XV
Development Issues for PDP with ePortfolios: Web Services and Skills

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ABSTRACT

This chapter describes approaches firstly towards a service-oriented architecture for personal development planning (PDP), and secondly towards representing skills for interoperability. We outline a personal information aggregation and distribution service (PIADS) which serves as the key concept within a distributed approach to storing information suitable for ePortfolios and PDP, and using it through Web services. Our skills “meta-framework” is outlined as a long-term practical solution to the challenge of widely diverse descriptions of skills. It uses a published specification (IMS\textsuperscript{1} Reusable Definition of Competence or Educational Objective, RDCEO\textsuperscript{2}), and elaborates this to distinguish between conceptual “competency” definitions and operational “educational objective” definitions. If these issues are not addressed, the practical value of ePortfolios for PDP would be limited. Thus the chapter is of particular importance to those planning and designing future ePortfolio systems and services.
INTRODUCTION

ePortfolio systems can act as repositories for personal information that has several possible uses. For example, some systems allow the kind of information that appears on résumés or application forms to be viewed by potential employers or educational institutions to which a learner is applying; some systems allow users to reflect on their experiences, and to store analyses of the skills and competencies involved, along with evidence for them; some systems store records or artefacts for assessment towards an award. ePortfolio systems could offer all of these.

It is clear that, from the perspective of an individual user, all this ePortfolio information needs to be accessible in one place to facilitate its management. Those who own or control the information need to be able to update those parts under their control, and to grant and retract permission for others to view the various parts of the information. On the other hand, some of that information is needed by institutional or corporate administration systems, and some might even be owned by such bodies (like material submitted for assessment, as well as the results of assessments). This means that ePortfolio information may naturally be spread over a number of physical and organizational locations. Some of these places are likely to be defined by the nature of the information, while others might be chosen by users and changed at their will.

One part of the work described in this chapter explores how these two requirements can be reconciled. A conceptual architecture is outlined which separates the storage of the information from the service which allows the owners of the information control over it. The service that allows this control is called a PIADS, standing for personal information aggregation and distribution service. The concept has been refined after discussions with interested parties.

One of the important functions of ePortfolio systems is to enable learners to assemble, hold, and present information and evidence about their skills and competencies. Different stakeholders may have different views, not only on what skills are relevant in a particular situation or for a particular purpose, but on how those skills are represented and grouped. This can be described under the heading of the “skills framework” that is used.

This immediately creates a challenge for ePortfolios in the context of lifelong learning: how can skills and competencies documented in terms of one skills framework be re-described or reused under a different framework? One answer to this question is to remit it to learners themselves: they have to become expert at re-describing their skills in different contexts. But this does not address the situation of the learner who lacks expertise in re-description, nor does it aid the automatic use of evidence for skills and competencies, for example, in the context of recruitment selection systems.

The other part of the work described in this chapter addresses this issue, and outlines an approach to representing skills and competencies designed to enhance the interoperability between different skills frameworks, while allowing for expected differences of view on how to learn, teach, or assess those skills.

BACKGROUND

The findings presented here are from two projects funded by the UK Joint Information Systems Committee (JISC)\(^2\): the Web Services for Reflective Learning (WS4RL)\(^4\) project, and the Skills Profiling Web Service (SPWS)\(^5\) project. Both of these projects sprang out of...
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