



Project Document Cover Sheet

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Final Report

Project: Nottingham Trent University/Desire2Learn Portfolio Interoperability Project (3)

Author: David Morris

Background to the project

Nottingham Trent University (NTU) uses the Desire2Learn (D2L) ePortfolio as an integrated component of their Learning Management System. During the academic year 2008-09 an evaluation was conducted with reference to existing educational uses of portfolio activities and how these map onto the functionality of the D2L ePortfolio tool. An outcome of this evaluation was a commitment to establish closer dialogue with D2L and to collaborate on development, so that the ePortfolio tool would be more suited to the needs of our users.

In the academic year of 2009, NTU rolled out the ePortfolio to all staff and students. This created a perceived need for NTU to explore interoperability of systems, shared architecture and long-term storage of user data. D2L indicated their support and commitment to develop LEAP2A compliance and to engage in this mini-project. NTU was already a partner in the JISC funded, Shared Architecture for eEmployers, Student and Organisational Networking (SAMSON) project. SAMSON is a project that uses dynamic web service infrastructure to present a platform for users and service providers to collaborate in a secure environment. Learners use ePortfolios to push data into the web service, to be accessed by educational providers and employers. Both Mahara and PebblePAD systems have been used within the SAMSON web service. The project offered an opportunity for the D2L ePortfolio to develop a Leap2A standard, the de facto UK standard that would enable NTU and D2L to draw on the benefits derived from the greater interoperability achieved. The project also offered an opportunity for NTU to enhance the SAMSON web service, by having the D2L ePortfolio as another platform provider.

Project aims

The aim of this project was to further extend the application of LEAP2A ePortfolio specification, by piloting the portfolio data transfer between a commercial ePortfolio platform

provider, Desire2Learn (D2L) and existing LEAP2A partners and the SAMSON web service. This involved the following objectives:

- Enable data sharing between the D2L ePortfolio and the other project partner platforms;
- Enable data sharing between the D2L ePortfolio and the SAMSON web service;
- Investigate the commonality between the D2L proprietary XML export and the LEAP2A standard;
- Identification of essential data types that need to be represented e.g. Name and Email and those that can be left blank e.g. file size.

Project Methodology

As this was a small-scale project with very limited funds, D2L agreed to fund the development work and NTU funded the project management aspect.

The approach taken by D2L for the development work was to use their own existing import/export functionality (which exports user data into D2L's proprietary XML format) and create a transformer application that would convert this format into Leap2A. Imports from other systems would also be passed through the transformer to convert them back into the D2L proprietary XML format, ready for import into the D2L system. The result of this work would be that existing D2L users would have the option of exporting data in D2L's XML format, for use with other D2L instances of ePortfolio, or Leap2A for interoperability with other platforms and the SAMSON web service.

The transformer application was created as an executable file.

D2L's web form functionality would be used to create the required structure for use with the SAMSON portal.

Providing the project deliverables

Provide a 'test' account on the target system

Several options were explored for hosting the 'test' instance within D2L and at NTU. After taking into account cost and firewall restrictions, a 'test' instance was established by D2L and an NDA agreement was put in place for partners accessing the system to sign. The 'test' system was published to the CETIS wiki.

A table mapping the information fields

D2L provided diagrammatic guides for their Leap2A mapping and this was further iterated by CETIS-JISC, NTU and UoN into an agreed tabular format. This was published to the CETIS wiki.

Import

NTU rigorously tested the transformer application. It was found that, although there was some success in importing a PebblePAD Leap2A file, feed items were imported as separate D2L artefacts. The e-pet and Mahara files could not be imported.

Export

A D2L export file was uploaded into the transformer application and the Leap2A generated file was tested with one system (PebblePad). The file failed to import into the pebblePAD system.

Challenges and lessons learned

An early challenge identified derived from the design of the D2L ePortfolio system. This, unlike other ePortfolio systems, has no underlying structure. It has, instead, a highly configurable web form structure that can be constructed by system administrators and which offers greater flexibility than a rigid structure. However, it posed a technical challenge in sending data to the SAMSON portal. It was desirable to develop this web form structure to be Leap2A compliant; however, this was outside the scope of the project and not one of developmental D2L's priorities.

Furthermore, it became apparent that in order to develop the D2L ePortfolio tool to be fully Leap2A compliant, particularly with regard to export, a fundamental redesign of the system would be required. This had significant resource implications for D2L and the company was unable to commit further resource to the development at this time. A consideration for D2L in assessing whether to undertake future development in this regard would be the likelihood and timescale for Leap2A to become an international standard.

One of the main challenges of this project was the difficulty in collaborating effectively with multiple international partners. Conference calls were arranged, asynchronous communication tools were utilised and face-to-face meetings were arranged for the UK partners. Despite this, meetings often had to go ahead without some of the key people present.

Comment from the Project Director

The scope for developing import and export of data represented just an initial vision towards greater interoperability of the D2L ePortfolio with other ePortfolio systems and web services, as offered by SAMSON, so the outcome of the project is disappointing.

I can confirm that the Project Manager made extensive efforts to facilitate the necessary communications and collaborations with all parties involved. Ultimately, there was a high degree of dependency within this particular project, for D2L to offer the commitment to undertake the development and testing needed. The novel solution they provided turned out to be flawed and the further time afforded to rectify the approach proved unfruitful.

D2L have been extremely positive partners in the JISC SHARE project, and NTU had hoped to develop this partnership in a direction that would offer mutual if distinct benefits. NTU regret the resource that JISC and the Leap2A partners have given in efforts to produce a positive outcome. For any future collaboration with external partners, this experience has highlighted the need to ensure that the resources and commitments to a project are understood and that risks are planned for from the outset.

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