



**Project Document Cover Sheet**

**JISC ITT: Extension & Development of LEAP2A (PIOP 3)**

<b>Name of institution/organisation:</b> University of Nottingham
<b>Project partners (if applicable):</b> Pebble Learning
<b>Full contact details for primary contact:</b> Name: Kirstie Coolin Position: eBusiness Analyst Email: kirstie.coolin@nottingham.ac.uk Address: ClePD, Level 1 Hallward library, University of Nottingham, Nottingham NG7 2RD  Tel: 0115 95 16976  Fax: 0115 84 66777
<b>Length of Project:</b> 6 months
<b>Project Start &amp; End Dates:</b> 1 <sup>st</sup> February 2010 to 30 <sup>th</sup> July 2010
<b>Total Funding Requested from JISC:</b> £5000
<b>Outline Project Description</b>  This project partners the University of Nottingham with Pebble Learning to extend the use of LEAP2A into real work-based learning scenarios offered by the University of Nottingham's SAMSON project, thus realising the thin-ePortfolio model to support lifelong learning in different contexts.  The Project will develop PebblePad's export functionality to enable 'atoms' of ePortfolio data to be pulled through on request, and implemented within widgets contained in the SAMSON Portal. This will include investigation into the most appropriate way to ensure secure access to items based on role and responsibility in a streamlined way.  This approach will demonstrate a practical implementation of distributed and personalised learning whereby employer and learner engagement can be managed through a subjective interface.  Technically, this will require PebblePad to implement a two-legged OAuth method to allow applications to be registered with PebblePad, which in turn will allow the applications to act as aggregators that can run without user interaction. PebblePad users will have the option to send assets in their ePortfolio to an authorised application that will make the assets available through a LEAP2A Atom feed.
Tick this box to indicate that this proposal has been approved by an appropriate member of the institution/organisation  <div style="text-align: center;"> <input checked="" type="checkbox"/> </div>



## **E-portfolio Interoperability – Bid Document**

### ***Overview of Project***

#### **1. Background**

The University of Nottingham's Centre for International e-Portfolio Development (ClePD) has a record of successful projects in the area of e-Portfolio, standards and data exchange through its' eP4LL and RIPPLL projects (using UKLEAP) significant XCRI implementation work and the Nottingham PIOP project.

PebblePad is a Personal Learning System currently being used in further education colleges, universities and professional bodies; by learners, teachers and assessors; for Personal Development Planning (PDP), Continuing Professional Development (CPD) and Learning & Teaching (L&T); it also has more active users than any other system in UK Higher Education (HE) sector (approximately 600,000) and with an increasingly strong presence in Australia.

PebblePad supports personal learning whilst also providing a suite of tools to support learning in institutional contexts e.g. assessment, appraisal and accreditation. PebblePad assets can be shared with trusted individuals, published to group pages or made public to the worldwide web. Over time users create, store and review multiple assets, which can be aggregated into powerful presentational portfolios, called WebFolios.

Increasingly users transfer their assets into PebblePad; between instantiations of PebblePad; and between PebblePad and other tools or systems. Providing an easy means of transporting learner-owned assets has been a core principle throughout the development of the system. PebblePad has a flash-based user interface; a SQL database and uses the .NET framework.

ClePD and Pebble Learning were involved with the origins and development of LEAP2A, work undertaken with JISC-CETIS and Newcastle University. All teams successfully secured JISC funding in 2008/9 to import/export LEAP2A data from PebblePad and Passportfolio respectively under the first round of projects. With a commitment to ePortfolio interoperability, both partners value involvement in the LEAP2A community.

The ClePD are running a JISC funded LLLWFD project, SAMSON, a partnership between the University of Nottingham and Nottingham Trent University, with benefits realisation activity including the University of Derby. This project aims to provide an IT infrastructure to host services for lifelong learning/ workforce development and will deliver customised data views to employers, universities and learners via standards based (including LEAP2A) web service gateways and portals; employers and mentors will interact using portals while learners will use ePortfolios. In line with SAMSON targets, 100 learners will use these systems.

A key benefit of SAMSON and this project to current and future PebblePad users is the ability for them to move their ePortfolio evidence between institutions and tools promoting a sense of lifelong learning.

Working with employers offers new types of ePortfolio use. SAMSON aims to bring ePortfolio as well as other distributed tools together using common standards. LEAP2A has the potential to enable ePortfolio to be brought into this distributed practice, where employers require simple, standardised interfaces. To meet this SAMSON objective, the project is using a local Mahara installation at the University of Nottingham, customised with web service technology to enable the portal (via widgets) to pull through parts of LEAP2A, where accessible and shared. However, for the portal widget to be re-useable, it should be able to pull through data from any ePortfolio system. Nottingham Trent University use the Desire2Learn system, and the University of Derby are using a hosted PebblePad system.

This proposal is linked with, but sits outside of the SAMSON remit in terms of bespoke development from Pebble Learning and testing of authorisation methods.

## **2. Aims and Objectives**

LEAP2A was originally developed with a desire to provide a lightweight method for interoperability, and this proposal will demonstrate how the LEAP2A 'atoms' can be implemented within real HE and work-based contexts.

This partnership of the ClePD and Pebble Learning seeks to extend the PebblePad export functionality to enable 'atoms' of ePortfolio data to be pulled through on request and implemented within the SAMSON Portal. This would include investigation into the most appropriate way to ensure secure access to items based on role and responsibility in a streamlined way.

This approach fits with the 'thin ePortfolio model' and demonstrates a practical implementation of distributed and personalised learning whereby employer and learner engagement can be managed through a subjective interface. This would require PebblePad implementing a two-legged OAuth method to allow applications to be registered with PebblePad, which in turn allows the applications to act as aggregators that can run without user interaction. PebblePad users will have the option to send assets in their ePortfolio to an authorised application that will make the assets available through a LEAP2A Atom feed.

The ClePD will be testing this approach with Mahara using bespoke webservices built onto an internal installation. This project aims to enable the atomised retrieval of relevant ePortfolio data (including files) into pre-defined widgets accessible by learning stakeholders.

Re-useable widgets will display data from the ePortfolios, regardless of the system used. Testing would be primarily with PebblePad, Mahara and Desire2Learn via Nottingham Trent University. These will display: CV data, personal information and shared documents/evidence for assessment

This project would pilot the existing LEAP2A specification in a new context. Feedback on the suitability of LEAP2A within this context will be fed back to the project community as well as recommendations on best practice for lightweight interoperability and secure access.

Import specifically will consist of displaying defined e-Portfolio data within re-usable widgets contained in the SAMSON portal.

PebblePad already has a LEAP2A export built into their production system, which exports the whole of the users' ePortfolio data in one feed. The export for this proposal differs in that it allows export of data chunks as requested by the target system. This model would be scalable to any target requiring distributed data.

### **Summary of outcomes:**

- Inform the LEAP2A documentation and discussions in relation to a distributed context
- Inform LEAP2A business case, via scenarios and real-world use case
- Develop methods of secure access to elements of ePortfolio data with PebblePad
- Link with SAMSON technology in testing widgets to display seamless and specific ePortfolio data based on employer/learning requirements.
- Allow access to the developments to other mini-projects
- Document the types of data requested by employers and users

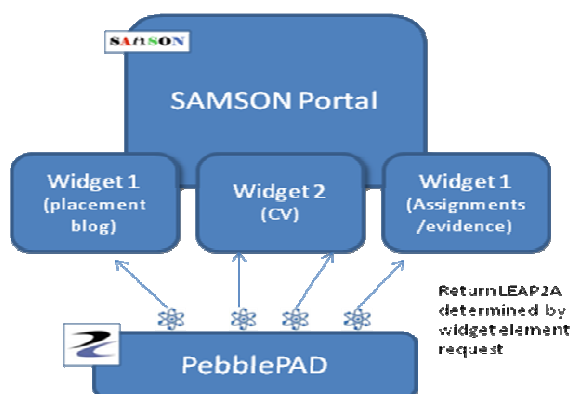
## **3. Overall Approach**

PebblePad will:

- Implement a two-legged OAuth method in PebblePad

- Add a 'Send to application' option in PebblePad
- Implement user specific Atom feeds for aggregation

External users of SAMSON will see a list of users in the SAMSON portal, which when an individual user is clicked upon will automatically feed PebblePad assets (in LEAP2A) to the SAMSON portal widgets displaying the contents to the external user.



ClePD will provide some example import widgets and will work with Pebble Learning to develop the best way of managing the security.

#### 4. Project Outputs

- Export web service(s) within PebblePad to return requested atoms only
- Method available for other PIOP3 partners to trial
- Testing of exports in 4 specific widgets (both PebblePad and Mahara)
- Produce scenarios which inform the approach
- Use and evaluation; analysis and report including recommendations for further work, documentation of technical approach undertaken and experiences of this.
- Dissemination, national conference submission

#### 5. Project Outcomes

This project will move forward the development of LEAP2A to support the cross-sector regional and national interoperability agenda and to support the developments of e-Portfolios for use in work-based learning/CPD.

This project would impact on other areas of JISC's LLLWFD projects, particularly CPD-Eng based at the University of Hull, which seeks to pull together systems that support IPD/CPD, including PebblePad, via a work-based cohort.

#### 7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to prevent/manage risk
Loss of key staff	2	4	8	Clear and regularly reviewed documentation; regular progress reviews to ensure smooth handover
Access to systems	1	5	5	Early commitment from senior management; work helps support core business; regular reviews to facilitate support from other partners
Technology does not fulfil expectations	1	3	3	Clear management of expectations of all partners from early stage; communication with other projects to share findings and solutions to problems

Failure to meet deadlines and work within budget	1	4	4	Designate reporter and plan accordingly.
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## 8. Standards

Name of standard or specification	Version	Notes
LEAP2A	1.0	Standard in development
XML	1.0	Common Standard format
Widgets	1.0	For aggregation
XHTML	1.1	For accessibility
SOAP	1.2	For web service transport

## 9. Technical Development

Detailed above in 3.

## 10. Intellectual Property Rights

Pebble Learning will provide guidance documents on the OAuth method and how external systems can authenticate with PebblePad. Pebble Learning will also release sample source code. Pebble Learning reserve the right to retain parts of the code, as PebblePad is a closed system, releasing all code could result in unforeseen security risks to the PebblePad system.

## Project Resources

### 11. Project Partners

#### Primary Contacts

**Project Manager:** Kirstie Coolin, eBusiness Analyst ClePD, 0115 9516976, kirstie.coolin@nottingham.ac.uk

**Project Manager:** Matthew Wheeler, ePortfolio Consultant Pebble Learning, 01952 288300, matthew@pebblelearning.co.uk

### 12. Project Management

#### Project Team:

#### University of Nottingham

**Kirstie Coolin**, eBusiness Analyst, will oversee the project progress, milestones and reporting. Prior experience in applications development, managing technical and non-technical projects within lifelong learning sector.

**Stuart Wood**, Application Developer, will carry out aggregation technical work and liaison with PebblePad technical staff for this project. Prior experience in commercial applications development, implementing XCRI in a region and LEAP2A interoperability.

#### PebblePad

**Matthew Wheeler**, ePortfolio Consultant, will act as Project Manager on the PebblePad side and will ensure adherence to the development timeframe; stated outputs and programme commitments.

**Andrew Everson**, Senior Technical Developer will carry out primary development work. Andrew has worked on a number of JISC projects including ePISTLE; LIPID; and PIOP.

Andrew will provide support and technical consultancy to any new partners joining the PIOP project and continue to support other partners for this extension funding.

**Stuart Buck**, Technical Developer, carry out additional development work to support the project. Stuart has worked on the integration of Moodle with PebblePad utilising the LEAP2A specification. Stuart will work with partners to provide test environments and to conduct and document import and export routines.

