

Project Document Cover Sheet

Project Information			
Project Acronym	PIOP3		
Project Title	Extension and Development of LEAP2A		
Start Date	1 February 2010	End Date	31 July 2010
Lead Institution	BLi Education Ltd		
Project Director	Karim Derrick		
Project Manager & contact details	Karim Derrick k.derrick@blieducation.com		
Partner Institutions			
Project Web URL	http://www.maps-ict.com/content/leap2a		
Programme Name (and number)	e-Learning programme		
Programme Manager	Lisa Gray		

Document Name			
Document Title	<i>Final Report</i>		
Reporting Period			
Author(s) & project role	Karim Derrick		
Date	23/07/2010	Filename	report_piop3_KD_v02_23_07_10
URL	<i>if document is posted on project web site</i>		
Access	Project and JISC internal	✓ General dissemination	

Document History		
Version	Date	Comments

LEAP2A ePortfolio Interoperability Final Report

Karim Derrick
TAG Developments Ltd,
a division of BLi Education Ltd

Revision and Review Sheet

Release No.	Date	Revision Description
V01	23/07/2010	Version 1 – Karim Derrick

1. Target system who have access to the interoperability services;

1.1. MAPS 3.0

MAPS was originally developed in 2001 in partnership with forward thinking teaching advisors based in Worcestershire Local Education Authority. Their vision was to develop a system:

- that could provide an electronic portfolio of work that could transition with that student and tutor;
- that could help learners reflect on, understand and improve their own capability and performance;
- that could help educators share best practice in terms of verifying assessments of learner capability and hence also improve both the learner's performance and the teacher's performance.

From the research carried out by TAG for the Worcestershire team (and building on previous research by Technology Education Research Unit ("TERU") at Goldsmiths College in the 1990s) and by working closely with the Worcestershire team and a number of end user teachers, the system we subsequently called "MAPS" was born. MAPS fulfilled all of the initial requirements that Worcestershire had when they contracted us to carry out the original work, and has since grown to support the personal development and summative / formative assessment of student capability right across the curriculum and from age 5 through to 18 years+ allowing students to capture their achievements and capability across the range of educational contexts they are presented.

The system has provided curriculum linked and evidence driven ePortfolios to over 140,000 students to date, and is currently in use within over 500 institutions right across the UK.

A key development with the MAPS approach to ePortfolios is 'MAPS eQualification' - a bespoke system developed by TAG to enable centres to electronically manage, submit and verify qualification coursework from TAG's ePortfolio eAssessment system MAPS.

This work began with a substantial pilot project with Oxford, Cambridge and RSA Examinations ("OCR") in 2004 whereby TAG were asked to develop a system that would enable centres to submit coursework for qualifications electronically, and then facilitate e-moderation by OCR's external moderators. The initial focus for this pilot was OCR's GCSE ICT qualification, but was later enlarged to look at several other GCSE and GCE qualifications, and more recently post-pilot to include OCR's CLAiT and iMedia vocational qualifications.

The system facilitates the evidencing of assessment objectives against externally regulated competence schemes and qualification assessment objectives. For TAG, this has meant designing and evolving over a number of years and across a range of schemes, an XML Schema for describing qualifications, units within qualifications, mark blocks and mark schemes, assessment objectives and referencing and marking requirements. This Schema is now sophisticated enough to profile qualifications ranging from skills-based IT qualifications such as OCR's CLAiT and SQA's PC Passport, to cutting edge New Media Qualifications such as OCR's iMedia. As part of an extensive and highly successful pilot that was undertaken by OCR in 2004/05, the Schema has also been used to describe several high-stakes qualifications, including GCSE and GCE qualifications in ICT and Business Studies.

1.2. AQA Baccaulareate Enrichment Diary

The AQA Baccaulareate is a qualification that is available to any student studying at least three A-levels and is designed specifically to prepare students for life in higher education with an emphasis

on self-reliance. The ePortfolio developed by BLi Education to facilitate the evidencing of this qualification is called the Baccalareate Diray and is based on MAPs. The diary combines a range of online and offline collaboration tools that enable students to evidence their personal development through work placement, community and personal enrichment activities. At its heart is an online diary or 'blog' to enable students to keep an iterative record of their achievements as they progress through their enrichment activities. The student is also able to add digital files directly into their posts within the diary, so that they are able to evidence their achievements within the activities that they are describing, thus forming a digital 'portfolio' of evidence relating to their capabilities.

There are currently 193 institutions using the Enrichment Diary ePortfolio across the country. We believe that allowing students to export their enrichment activities from the diary system into higher education eportfolios is an obvious next step and is one that has already been requested from both students and universities in recent months.

1.3. E-scape / LiveAssess

E-scape is a suite of eportfolio tools that facilitate the creation of real time portfolios. This project is now beginning its fourth phase and is funded by the British Educational Communications and Technology Agency ("BECTA"), delivered by the Technology Education Research Unit ("TERU") at Goldsmiths College, London, in partnership with a number of awarding bodies including Edexcel. The project has also been extended into Scotland, through a pilot that is being coordinated by Strathclyde University and in association with the Scottish Qualifications Authority ("SQA").

The main aim of the project was to investigate and test new ways of assessing innovation and creativity. When Qualifications and Curriculum Authority ("QCA"), who originally provided the funding for this, envisioned this project, it saw an ePortfolio as underpinning this new assessment system, and asked TAG to participate as it viewed MAPS as being a market leader.

E-scape portfolio building functionality is now available commercially through the MAPS product and is being used and piloted by a range of institutions around the world. This includes a number of schools and colleges in the UK but also notably Limerick University in Ireland and Edith Cowan University in Western Australia.

Since E-scape/LiveAssess is part of the MAPS product, BLi Education wish to investigate the use of the LEAP 2A in e-scape portfolio contexts.

2. Organisational and technical issues encountered during the course of the project

In terms of technical issues Bli have encountered very few in the implementation of the LEAP2A export, however we have encountered many more in the implementation of the LEAP2A import. Our experience has been that even the larger better funded systems such as Mahara and Pebblepad have been very different in their approach to the implementation of the LEAP2A standard. Moreover, since there has been poor overlap with the mapping of MAPS to LEAP2A in comparison to the mappings of Mahara and Pebblepad and then in turn to each other, our approach to import has been to provide different import profiles depending on the provider. Thus we now support three different import profiles: one for our own system, one for Pebblepad and another for Mahara. We think this has been necessary in order to ensure imports are meaningful and useful.

Another issue for BLi has been that we have been only able to provide short and focussed commitment to the project inline with the funding provided. As a consequence the great majority of our development time was spent in the first two week after the initial meeting. Unfortunately, with the project spanning

many months it has been difficult for us to apply ourselves to discussion on issues that for us have been covered off many weeks in the past. Our preference would have been for the development, which had only a few days funding, to be focussed in just a few weeks and not so many months.

3. Documentation of the approach taken to export

The focus of our MAPS system is on evidencing capability. This makes the mapping of certain areas of the system challenging if it is to be meaningful in transfer. MAPS evidence is stored as a reflection in a diary, which is then mapped to a task, which is in turn mapped to assessment criteria. This is in addition to basic CV functionality that has a more obvious place within the LEAP2A standard and is trivial in implementation.

Following internal discussion we decided to map our blogposts to “entry”, comments on blogs also as “entry” types with “in_reply_to” links back to the blog post, and the blog post assets used to evidence the reflection as LEAP2A RDF type “resource” with the relationship “is_evidence_of” to the parent reflection/blog post.

The link of the blog post to the assessment task created by the student’s teacher is achieved by the creation of LEAP2A RDF type “activity” which in turn has relationships defined to bind it back to the parent blog post. Similar relationships then allowed us to link task resources and marksheets to the tasks which in turn allowed us to include the tagging against competences and final marks as a final additional entry.

To date we have not found any other system that has been able to import these complex assessment portfolios to any degree other than our own: this means substantial quantities of data lost at the point of import. The fact that we are able to do this at all is though a good indication of the scope for the standard to enable such data across a widening number of systems.

4. Evaluation of and feedback on the LEAP2A specification

The LEAP2A standard has demonstrated that it can be employed to transfer portfolio data between portfolios on the MAPS system. Since MAPS is an assessment system, this has meant using the standard to define assessment tasks and to then map these to student evidence.

The standard has also demonstrated that it is possible to transfer simple CV data between ours and other ePortfolio systems – although as always this is dependent on what the system is capable of transferring.

As indicated elsewhere in this document, we are concerned that other systems are often importing very small subsets of our export and then not indicating where data is omitted, even where there are obvious homes for the data on the target systems.

5. Identification of any problem areas and suggestions for improvements

The coverage of assessment and accreditation is still weak within the standard. There is no mechanism for common skills or competences to be defined across portfolios or institutions: which arguably devalues the portfolio for an individual. Creating a mechanism to allow skills to be transferable across systems would, we believe, increase the value of the standard substantially.

Since there is great variety in the degree to which the standard is implemented on target systems, this paper proposes that it will be necessary going forwards to kite mark implementations if the standard is

to maintain value. This could also be coupled with a requirement to indicate where data is *not* imported.

6. Resource/time implications as a guide for other developers implementing the specification

The specification is now well enough defined and sufficiently simple for a well constructed system to develop a LEAP2A exporter and importer in a matter of days. Without the need to iterate development in response to changes in the standard, development would have been completed within a week.

7. Scenarios of practice

MAPS is primarily a schools/colleges-based ePortfolio with a growing number of higher education and work based users. The focus of the system is on evidence of capability against learning outcomes or competences or assessment criteria. Users map evidence or parts of evidence against outcomes by means of the patented Red Pen tool or else using a simple tick box mechanism.

Interoperability scenarios are in part about transition between phases as users move between different institutions.

The scenarios below represent the typical types of usage of the system.

7.1. Students in a school

School based use of the MAPS ePortfolio is widespread with students gather evidence mapped against different curriculum areas and/or a range of qualification contexts. This work includes community, work based and personal capability evidencing for new qualifications such as the AQA Baccalaureate which emphasises more than the traditional approach to assessment.

With evidence collected in such a variety of contexts there is every reason why a student should want this evidence of their capability to survive the time they have at the institution.

7.2. Students studying for a vocational qualification

The MAPS system was originally designed as a qualification management system. Students are assigned qualification tasks based around the assessment criteria for a qualification unit. A task can also include teaching resources or materials as attachments to the task. Assessment criteria are managed and maintained by the participating accreditation organisation.

Students create their portfolio evidence over time and upload the evidence into the place holders provided by the portfolio activity assignments. Students are given transparent access to the assessment criteria for the unit and can optionally assess their evidence against the criteria using the Red Pen annotation tool or else simple tick boxes.

Evidence uploaded against qualifications may be required for use in other contexts. Perhaps as evidence to support university admission or otherwise prior learning presented in preparation for vocational study, making interoperability essential.

7.3. Students studying for a Professional Qualification

MAPS is also used as a professional development tool, especially in teacher education contexts. The institution creates portfolio activities around the units from the Professional Standard document and assigns these at appropriate times to the participating students.

Students in turn maintain their professional learner diaries, creating reflection as and when they need to, using both laptops and mobile phones as the evidence capture devices. This evidence is then in turn mapped to professional standard units, and then again against the competences and objectives described by each unit using both the Red Pen annotation tool and simple tick boxes.

It is of course then desirable for evidence of achievement in teacher training contexts to be exported either to school based systems that the trainee then goes onto or other professional development portfolios such as PebblePad.

7.4. Teacher Professional Development

A unique feature of the MAPS system is that teachers and students are differentiated only through their relationship with others. In that sense, teachers can be both students in one context but teachers in another. Teachers can keep their learner journal as a record of their reflections. Teachers can create portfolio tasks for themselves which detail targets for the forthcoming year against which they can then tag evidence.

8. Glossary

- **Assessment Objective** – a criterion against which an individual will be measured for competence in a particular area.
- **Awarding Body** – any accrediting organisation verifying evidence against assessment criteria or competences.
- **Annotation** – a comment on a piece of work displayed as a layer on top of that work.
- **Baccalaureate** – an emerging style of qualification that is positioned as an alternative to traditional A-Levels in the UK.
- **Option** – a combination of units which together make up a particular level within a qualification.
- **Portfolio Task** – any activity within a portfolio where evidence needs to be mapped.
- **Red Pen** – a patent pending web service that allows documents to be converted server side to a format that can be displayed within a browser and then annotated using audio and/or text.
- **Unit** – a component of a qualification that is mapped to a Portfolio Activity within MAPS.

9. Example XML output

```
<?xml version="1.0"?>
<feed xmlns="http://www.w3.org/2005/Atom" xmlns:leap2="http://terms.leapspecs.org/"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:categories="http://wiki.leapspecs.org/2A/categories/"
xmlns:thr="http://purl.org/syndication/thread/1.0"
xmlns:portfolio="http://three.maps-ict.com">
  <leap2:version>http://www.leapspecs.org/2010-07/2A/</leap2:version>
  <title>Leap2A Export for PIOP Student</title>
  <id>http://three.maps-ict.com/blog/list?userid=10003</id>
  <updated>2010-07-13T18:19:52+01:00</updated>
  <author>
    <name>Author/10003</name>
    <email>piop@maps-ict.com</email>
  </author>
  <entry>
    <title>Journal of PIOP Student</title>
    <id>portfolio:Journal/10003</id>
    <rdf:type rdf:resource="leap2:selection"/>
    <category scheme="categories:selection_type" term="blog"/>
    <updated>2010-07-13T18:19:52+01:00</updated>
    <content/>
    <link rel="leap2:has_part" href="portfolio:Blogpost/28108"
leap2:display_order="1"/>
  </entry>
</entry>
```

```

<id>portfolio:Blogpost/28108</id>
<title>Example post</title>
<content type="xhtml">
  <div xmlns="http://www.w3.org/1999/xhtml">
    <div>
      <p>I written some content here</p>
    </div>
  </div>
</content>
<published>2010-03-12T17:08:11+00:00</published>
<updated>2010-03-12T17:08:11+00:00</updated>
<rdf:type rdf:resource="leap2:entry"/>
<link rel="leap2:has_evidence" href="portfolio:BlogpostAsset/51088"/>
<link rel="leap2:has_evidence" href="portfolio:BlogpostAsset/51089"/>
<link rel="leap2:has_evidence" href="portfolio:BlogpostAsset/51090"/>
<link rel="leap2:is_evidence_of" href="portfolio:Task/27928"/>
<link rel="leap2:is_part_of" href="portfolio:Journal/10003"/>
</entry>
<entry>
  <id>portfolio:BlogpostAsset/51088</id>
  <title>17919.jpeg</title>
  <updated>2010-03-12T17:08:34+00:00</updated>
  <rdf:type rdf:resource="leap2:resource"/>
  <link href="portfolio:Blogpost/28108" rel="leap2:is_evidence_of"/>
  <link rel="enclosure" href="files/BlogpostAsset/51088/17919.jpeg"
type="image/jpeg" length="83794"/>
  <summary>Contents of file 17919.jpeg</summary>
</entry>
<entry>
  <id>portfolio:BlogpostAsset/51089</id>
  <title>sample.docx</title>
  <updated>2010-03-12T17:08:34+00:00</updated>
  <rdf:type rdf:resource="leap2:resource"/>
  <link href="portfolio:Blogpost/28108" rel="leap2:is_evidence_of"/>
  <link rel="enclosure" href="files/BlogpostAsset/51089/sample.docx"
type="application/x-zip" length="14860"/>
  <summary>Contents of file sample.docx</summary>
</entry>
<entry>
  <id>portfolio:BlogpostAsset/51090</id>
  <title>sample-spreadsheet.xls</title>
  <updated>2010-03-12T17:08:35+00:00</updated>
  <rdf:type rdf:resource="leap2:resource"/>
  <link href="portfolio:Blogpost/28108" rel="leap2:is_evidence_of"/>
  <link rel="enclosure" href="files/BlogpostAsset/51090/sample-spreadsheet.xls"
type="application/msword" length="6656"/>
  <summary>Contents of file sample-spreadsheet.xls</summary>
</entry>
<entry>
  <id>portfolio:Task/27928</id>
  <title>Recycle, Recycle, Recycle!</title>
  <content type="xhtml">
    <div xmlns="http://www.w3.org/1999/xhtml">
      <div><p>In this activity I want you to create a PowerPoint presentation that
will encourage people to recycle more, rather than throwing more and more in the
bin!</p> <p>When writing your presentation, you should try to keep the following
objectives in mind:</p> <ul><li>Your presentation needs to be convincing; <br/></li>
<li>It needs to explain why recycling is important for the environment;</li> <li>The
slides need to be clear and concise;</li> <li>The content of the slides need to be
easy to read, and possibly use colourful images to catch people's attention;</li>
</ul><p>You should also remember to follow the guidelines I gave you last week when
we were doing our Great Presentation!</p> <p><br/>Good luck and remember - Recycle,
Recycle, Recycle!</p></div>

```

```

    </div>
  </content>
  <leap2:date leap2:point="start">2010-03-12T00:00:00</leap2:date>
  <leap2:date leap2:point="end">2010-03-31T00:00:00</leap2:date>
  <author>
    <name>Mr. The Teacher</name>
  </author>
  <link rel="leap2:has_evidence" href="portfolio:Blogpost/28108"/>
  <link rel="leap2:supported_by" href="portfolio:Markscheme/386"/>
  <link rel="leap2:supported_by" href="portfolio:Resource/99290"/>
  <link rel="leap2:supported_by" href="portfolio:Resource/99291"/>
  <rdf:type rdf:resource="leap2:activity"/>
  <updated>2010-07-13T18:20:02+01:00</updated>
</entry>
<entry>
  <id>portfolio:Markscheme/386</id>
  <title>Perfect Presentations</title>
  <rdf:type rdf:resource="leap2:selection"/>
  <link rel="leap2:supports" href="portfolio:Task/27928"/>
  <content type="xhtml">
    <div xmlns="http://www.w3.org/1999/xhtml">
      <div>
        <div class="markscheme" title="Perfect Presentations">
          <div class="group" title="(no group title)">
            <div class="block" title="The presentation was created to explain product design to someone who knows little about this subject.">
              <div>The presentation contains a range of useful information.</div>
              <div>The presentation includes a title slide, at least five main slides and a summary slide.</div>
              <div>The presentation explains what represents good and bad product design.</div>
              <div>The layout of the slides has been changed through the presentation to make them work better.</div>
            </div>
            <div class="block" title="Suitable text and images were selected from several sources for the project.">
              <div>Information was chosen that the audience would find interesting.</div>
              <div>Some of the images were altered to make them more appropriate.</div>
              <div>A range of different effects were used to emphasise certain aspects of the presentation.</div>
            </div>
            <div class="block" title="A number of different layouts for the slides were considered for the presentation">
              <div>The layout of and content of the presentation were redesigned to make it suitable for a different audience.</div>
              <div>A particular image or sound clip was identified and one was created/added.</div>
              <div>Group discussion was used to judge whether a presentation was effective. There is also evidence of self-evaluation.</div>
              <div>Good ideas from other peoples presentations were used to influence how content and ideas could be presented better within the presentation.</div>
            </div>
          </div>
        </div>
      </div>
    </content>
    <updated>2010-07-13T18:20:02+01:00</updated>
  </entry>
  <entry>
    <id>portfolio:Resource/99290</id>
    <title>timage</title>
    <rdf:type rdf:resource="leap2:resource"/>

```

```

<link rel="enclosure" href="files/Resource/99290/timage.gif"
type="application/octet-stream"/>
<summary>Contents of file timage.gif</summary>
<link rel="leap2:supports" href="portfolio:Task/27928"/>
<updated>2010-07-13T18:20:02+01:00</updated>
</entry>
<entry>
<id>portfolio:Resource/99291</id>
<title>Recycle_Poster.pdf</title>
<rdf:type rdf:resource="leap2:resource"/>
<link rel="enclosure" href="files/Resource/99291/Recycle_Poster.pdf.pdf"
type="application/octet-stream"/>
<summary>Contents of file Recycle_Poster.pdf.pdf</summary>
<link rel="leap2:supports" href="portfolio:Task/27928"/>
<updated>2010-07-13T18:20:02+01:00</updated>
</entry>
<entry>
<id>portfolio:CV/10003</id>
<title>CV for PIOP Student</title>
<content/>
<rdf:type rdf:resource="leap2:selection"/>
<category scheme="categories:selection_type" term="cv"/>
<link rel="leap2:has_part" href="portfolio:CV/CoverLetter/2598"/>
<link rel="leap2:has_part" href="portfolio:CV/Interests/2598"/>
<link rel="leap2:has_part" href="portfolio:CV/Contact/2598"/>
<updated>2010-03-12T17:00:51+00:00</updated>
</entry>
<entry>
<id>portfolio:CV/Contact/2598</id>
<title>Contact information</title>
<content/>
<leap2:persondata leap2:field="name prefix"></leap2:persondata>
<leap2:persondata leap2:field="legal given name">PIOP</leap2:persondata>
<leap2:persondata leap2:field="legal family name">Student</leap2:persondata>
<leap2:persondata leap2:field="dob"></leap2:persondata>
<leap2:persondata leap2:field="country"></leap2:persondata>
<leap2:persondata leap2:field="homephone"></leap2:persondata>
<leap2:persondata leap2:field="mobile"></leap2:persondata>
<leap2:persondata leap2:field="fax"></leap2:persondata>
<leap2:persondata leap2:field="gender">0</leap2:persondata>
<leap2:spatial>
<leap2:addressline></leap2:addressline>
<leap2:addressline></leap2:addressline>
<leap2:addressline></leap2:addressline>
<leap2:postcode></leap2:postcode>
</leap2:spatial>
<link rel="leap2:is_part_of" href="portfolio:CV/10003"/>
<rdf:type rdf:resource="leap2:person"/>
<updated>2010-03-12T17:09:10+00:00</updated>
</entry>
<entry>
<id>portfolio:CV/CoverLetter/2598</id>
<title>Cover letter</title>
<content/>
<category scheme="categories:common_item" term="Personalstatement"/>
<link rel="leap2:is_part_of" href="portfolio:CV/10003"/>
<updated>2010-03-12T17:09:10+00:00</updated>
</entry>
<entry>
<id>portfolio:CV/Interests/2598</id>
<title>Interests</title>
<content/>
<rdf:type rdf:resource="leap2:ability"/>

```

```
<link rel="leap2:is_part_of" href="portfolio:CV/10003"/>  
<updated>2010-03-12T17:09:10+00:00</updated>  
</entry>  
</feed>
```