

e-Portfolio for Development: Implementation by Regional Partnerships

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Date: 2006 10 02	Status: Final Draft
Audiences: RM Show & Tell; EIFEL conference; Project Advisory Group.	

1. Introduction

The *Final Report of the e-Portfolio for Lifelong Learning Reference Model* provides a set of domain maps of services to support JISC projects beginning work on portfolio-based Higher Education admissions processes in 2007. This is available from: <http://www.nottingham.ac.uk/epreferencemodel/keydocuments/Annex%202.pdf>.

This paper identifies how the thin model of e-Portfolio proposed in the *Final Report Annex 4* available from: <http://www.nottingham.ac.uk/epreferencemodel/keydocuments/Annex%206.pdf> can support JISC regional projects and Lifelong Learning Networks (LLNs). The paper covers the same set of services required for HE admissions but looks at them from the perspective of a regional partnership supporting Lifelong and Lifewide Learning.

Whereas the HE admissions paper is focused upon support for a student moving on, sequentially, from one episode of learning to another, this paper is also concerned with supporting learners who are learning simultaneously in several different contexts for example for 'lifewide learners'.

The different ICT systems run by different institutions represent a barrier to lifewide learners, who need to integrate what they are learning. This is especially true where there are multiple e-Portfolio systems, since a core function of an e-Portfolio is to facilitate integration. The thin model of e-Portfolio is specifically designed to address this issue.

2 Advice and Guidance Service

The Reference Model has produced a domain map of application to Higher Education in which Advice and Guidance supports the development of an application. This is one expression of *Advice and Guidance*. The same generic service can be expressed in a different ways, for example to provide Advice and Guidance at induction for successful candidates, or to support unsuccessful candidates develop an alternative strategy. These are specific *service expressions* of the underlying *service genre*.

A *service genre* should be capable of providing different *service expressions* across a wide range of different contexts.

This section does not provide an *Advice and Guidance Service Genre* because the map of service expressions is incomplete. The use cases on which diagrams 1-3 are based cover only some of the contexts in which Advice and Guidance is provided. In particular they do not take specific account of the Advice and Guidance provided by Connexions. This section is a starting point from which service expressions can be developed.

By recovering the different patterns of practice across sectors, common underlying patterns of practice will become evident. At that point it will become practicable to define a service genre for *Advice and Guidance* and the different *expressions* of this *service* required to tailor and personalise provision to individuals' needs.

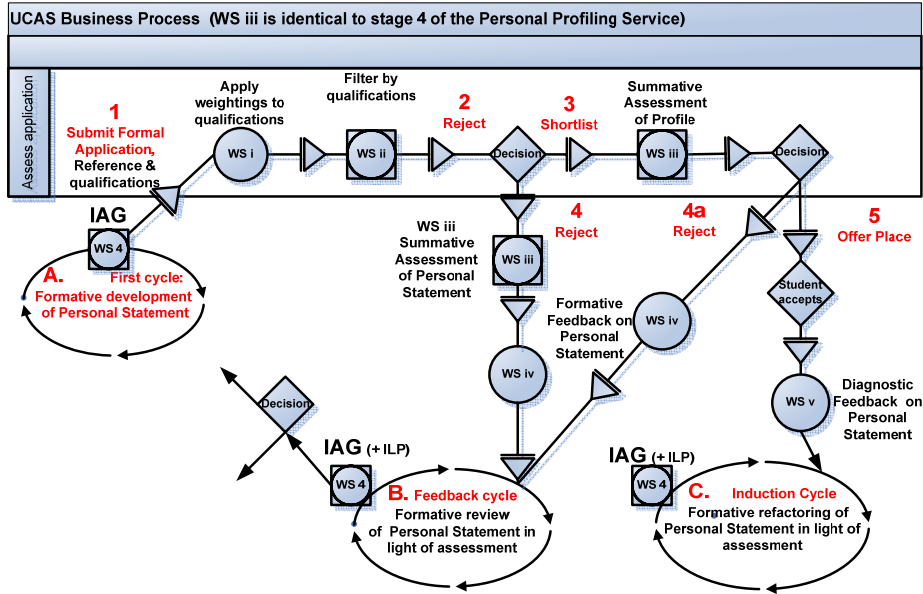
2.1 Sequential Transitions and Integrative Learning

Diagram 1 identifies 3 expressions of Advice and Guidance within the HE admissions process. Only 3 types of organisation are involved: a college, the Universities Central Admissions Service (UCAS) and a university.

Diagram 2 provides a higher level map of other *linear* progressions from one episode of learning to another in a regional partnership of schools, colleges, training providers and employers. Existing e-Portfolio systems are capable of supporting this model.

Diagram 3 maps some of the *simultaneous* learning, especially in education and employment that is increasingly being developed within regional partnerships by employers in collaboration with schools, colleges, universities and training providers. The thin model of e-Portfolio appears essential to support simultaneous learning.

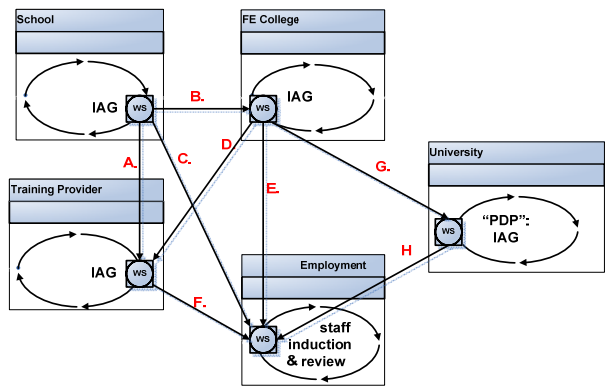
Diagram 1 Advice and Guidance for HE admissions through UCAS



The Advice and Guidance provided for HE application supports an essentially linear process in which past experience and future goals are reviewed in order to prepare an application to HE (A). Unsuccessful candidates review their application in order to set themselves realistic new goals (B). Successful candidates use feedback as part of the induction process (C).

Diagram 2 Advice and Guidance for transitions within a region

A regional partnership also provides Advice and Guidance to support linear transitions as one element in a programme of support preparing a learner to make a transition from one organisation and their induction into another:



Here at age 16 a learner may move from school to a training provider (A), to college (B) or into employment (C). College and university students may also progress sequentially to employment: this remains a traditional model of sequential transitions. In the diagram the common native term for Advice and Guidance used by each sector is employed: IAG in schools and colleges, PDP in HE and staff induction and review in employment. More work is required

to confirm how closely the IAG in schools and colleges may relate to the PDP for induction to HE and how closely both these may relate to “staff induction and review” in employment. ⁱ

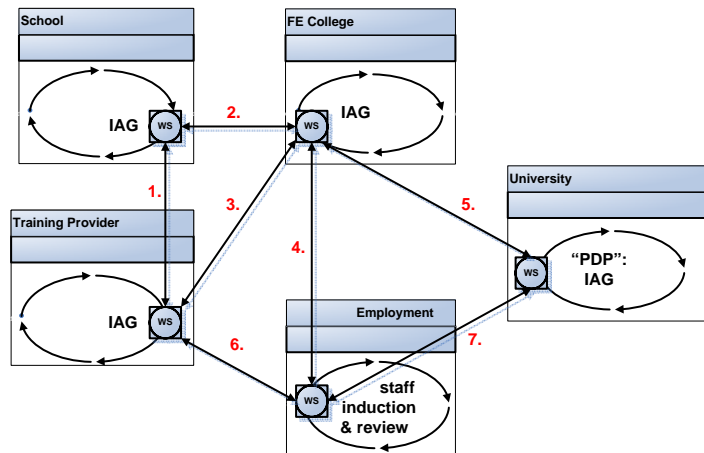
3 Integrative Learning

Diagram 3 Advice and Guidance for simultaneous learning within several partner organisations

Increasingly regional partnerships are being formed as a result of JISC activities and other initiatives, such as Lifelong Learning Networks (LLNs). Advice and Guidance is playing an increasing role in this work, as illustrated by the Nottinghamshire PassPortfolio in which Connexions are taking a leading role.

Up to this point, the collaborative Nottingham work on e-Portfolios has concentrated on encouraging and supporting transitions, but the development of 14-19 Specialised Diplomas is stimulating a growing emphasis on “*Lifewide Learning*” in different contexts, often including employment contexts and the involvement of employers in the development of curricula. There is a parallel, increasing demand from full-time undergraduates for various forms of work experience/placements which can complement and be integrated with their academic learning.

In a *lifewide learning* scenario (see Scenarios A & B below) the learners must integrate the skills they are learning, for example through a college course, with the experience being gained at the same time from their practical deployment in employment. They must learn how to express themselves in the different terms required in these different contexts. Here information does not pass from a college to an employer in a single, once-and-for-all transfer, but constantly passes backwards and forwards.



In this illustration a learner may be employed but also attending college to re-take the GCSE English s/he failed at age 15 (4) and developing specific skills through a training provider (6) while the university student is undertaking a work placement as part of a degree programme (7). The primary question is the nature of the Advice and Guidance (sources and processes) that learners’ require to integrate what they are learning simultaneously in education and employment.

The second question is the nature of the ICT required to support the provision of that *Advice and Guidance Service*. While two separate systems in two separate organizations could hold different perspectives on the learner’s progress, the point is for the learner, and their mentors (educators, advisors, employers) to develop an integrated overview of what has been achieved and what needs to be achieved next. Institution-specific, system-bound approaches present significant problems here, which the more open architectures being opened out by *Web 2.0* address.

There is a particular need for use cases of the sort of Advice and Guidance that this next generation of *integrative learning* practice requires, from which service

expressions can be then be developed and the underlying service genre defined. Regional Partnerships could lead these developments.

4 Scenario A: Employment to HE

The scenario requires the web services and use case specifications provided in Annex 5 of the Final Report of the Reference Model:

<http://www.nottingham.ac.uk/epreferencemodel/Draft%200.3%202006-07-16/narrative.html>

A learner left College 18 months ago having completed 5 GCSE level qualifications and 2 AS level qualifications. He had been using the college e-Portfolio, just as he had earlier used a school e-Portfolio. He had become disillusioned with college and started work with a local engineering firm employing 80 staff. His friends who went on to the local university now have better prospects.

His employer finds it hard to recruit skilled staff and is willing to support good employees develop their skills. The union rep tells the employee about the local Lifelong Learning Network, which is intended to help people access Higher Education and provides a shared LLN Partnership e-Portfolio for local people in work.

The Human Resources manager puts him in contact with an advisor, who gives him full access to the LLN Partnership e-Portfolio to help him make an application. He can also look up information in his old PassPortfolio.

Scenario A Employment to HE

Narrative from the Learner's perspective:	
1.	I meet my LLN advisor who identifies the courses I could take locally and shows me how to access the LLN Partnership e-Portfolio. I download the Course Entry Information for one foundation degree into a template.
2.	The template contains 7 prompts. The first 3 set out essential requirements. The next three set out desirable requirements. The last asks me to say anything else I think they should know about me. I can write about how I match some of these requirements without looking anything up.
3.	Some requirements are trickier: Under the LLN partnership I can access but not edit my school Portfolio. I cut and paste text from my past reflections on meetings with school and college advisors into the LLN Partnership e-Portfolio and update it.
4.	On my learning plan in college I had a real problem with some maths: I link to the college PassPortfolio statement my advisor made about how I overcame it
5.	I went to a Maths summer school at the local university (an LLN partner) who provided me with a testimonial for the progress I'd made which satisfies a desirable requirement: I link to the University e-Portfolio
6.	I give my LLN advisor access rights and email her. She looks up my draft Personal Statement next day and adds comments to what I've written. My main difficulty is that my college and my employer sometimes seem to speak a different language and I'm in stuck in the middle!
7.	My cousin works for Railtrack. I give him access rights. He suggests I include the photo of the track diagram I helped develop and his photo of it in place which is available in Flickr.
8.	When I used the PassPortfolio it didn't provide detailed qualification results and I've lost my paper certificates. An <i>Assessment Results service</i> recovers what I need from the exam boards and will allow the university to verify what I achieved.
9.	On my LLN advisor's advice I give both my old college and my employer access to the final version of the personal statement and email to ask them both to provide a link to a short reference.
10.	I apply.

5 *The Rationale for thin e-Portfolio, A*

A learner living in Nottinghamshire may work in Yorkshire, study in Leicestershire and move to Bristol. How practicable is a complete, stand-alone e-Portfolio solution that attempts to aggregate all potentially relevant information for a particular organisation or group of organisations? What a learner needs is an e-Portfolio engine that can help them integrate their disparate learning, wherever information is held and whenever it is needed.

In Scenario 1 the learner needs to integrate the sequence of what they have learned in the past into the Personal Statement for their present application to HE.

It would be possible to import items from the school and college e-Portfolio into the Partnership e-Portfolio (scenario steps 4 & 5). However, the receiving system may not be capable of representing all the attributes of the data. The duplicated data may differ from the original. A specific object in the source system may be linked to another object but, in practice, only one of the objects imports successfully and the link proves inoperable. The information could easily be misunderstood. There are a number of issues of this kind.

Pilot projects have demonstrated that it is possible to aggregate data into one system but the complexity and cost of doing so suggests that this is often not practicable.¹

An alternative is for a discrete Advice and Guidance service to recover information from the various systems in which it is stored for a specific kind of Advice and Guidance for a particular learner. The service will process this data and pass new data back to the appropriate systems. For example it may present to the learner and an advisor the long term aspirations a learner declared to a college prior to a first work placement together with the record of the exit interview with the workplace supervisor. Following a dialogue with the college advisor the service may pass back a revised set of aspirations both to the college and to the employer.

A broad scenario setting out the process from a human perspective should lead on to specific use cases of what a *service* should do to support the process. Common patterns of support will become apparent.

The fundamental point here is that the use cases should not be limited to one particular system; rather they should specify the interaction of systems.

Rather a use case should identify which systems/repositories hold which data, which *services* consume that data, and to which systems/repositories the new data processed by a *service* is returned.

This specifies the functions that an e-Portfolio engine/application should perform. These core functions could be implemented independent of any e-Portfolio systems. They could also be implemented within existing e-Portfolio systems

The fundamental point here is that the e-Portfolio engine should provide functionality beyond any one system. As national data resources become increasingly available, individual systems within a partnership will increasing need to access services and repositories beyond any partnership

The thin model of e-Portfolio is specifically intended to take advantage of the new opportunities and economies that Web 2.0 is opening out.

6 *Scenario B: CPD for Scientists*

I left college after a year to join the Scientific Civil Service. I was given day release and took a degree. When the Authority was privatised I moved to a start-up company in a University Science Park. I am cited in a number of research articles and I have electronic copies of the work I contributed. Some of the work is commercially confidential or classified and is kept on

¹ Aggregation of reference data may well be desirable in other domains for consistently structured data with a long life span, such as summative exam results. However within the assessment domain this may not always be true, for example of formative or diagnostic assessment results with a short life span that may be required by a college of a school in some circumstances but not thereafter. A lightweight assessment results service is being scoped for this kind of requirement.

several different servers depending on who the customer was. I've done well, but I need a PhD to progress.

A partnership has been formed with Roberts money to foster research and innovation in the region. I don't have an e-Portfolio, but I'm required to develop one to apply for a PhD and the regional partnership offers me access to their Partnership e-Portfolio.

Narrative from the Learner's perspective:	
1	I link my empty e-Portfolio to each of the published articles in which I am cited
2	I link in to the closed papers that have not been released and review the restrictions
3	I transfer my private copies of the work items I contributed to the e-Portfolio and link this to both the published and closed papers
4	I can now give access rights to published articles linked to the work I undertook and to closed papers linked to my work, subject to consent.
5	I recover links from exam boards that will detail and verify my qualifications
6	I draft out a research proposal for modeling actinides in groundwater flows linked to past work
7	I download course information from several universities and profile myself against them
8	I develop a couple of profiles to see how I match the desirable and essential requirements for entry (formative Personal Profiling Service).
9	I have an email exchange with my MD, who supervises doctoral students in another area but gives me some good links (Advice and Guidance). When we meet up he digs out 8 years of staff development forms and a couple of courses I'd forgotten about which I take away on my data pen. We discuss the IPR and how we could make some more of the confidential work available.
10	I get down to blocking out more personal stuff about myself and provide a proper plan for future CPD (Personal Planning Service)
11	I contact the best university, which happens to be 70 miles away, and give them access to the research proposal and a wider presentational linking in to my work.
12	Positive reply, but they would like me to iterate with them on my proposed Learning Plan so that it matches some of their minimum requirements better (Personal Planning Service).

Learners currently have only limited access to the information relevant to their learning. e-Portfolio has the potential to enable better access drawing on national initiatives to integrate learner information such as Managing Information across Partners.

This scenario suggests how a learner can use an e-Portfolio to integrate their learning for their continuing professional development. It was stimulated by German proposals for work which has parallels to the Roberts initiative in UK universities.

The work many professional workers produce is directly relevant to e-Portfolio. A portfolio linking to items held on existing repositories could quickly be established providing a high starting point for the reflective practice increasingly required by professions.

In the scenario the scientist links to items held on repositories which manage restrictions on rights of access. In a knowledge-based economy, Intellectual Property Rights are a key issue for workers who need to reference the products of their intellectual capital which they have sold. This is not an issue for e-Portfolio but for the repositories holding the products. It is in the interest of employers (including universities) to encourage workers to develop their intellectual capital through CPD. It is also in the interests of a nation, of a region and of other enterprises who can use this intellectual capital to improve their competitiveness.

7 e-Portfolio Development Workshop Pack

The Final Report of the Reference Model summarised in Diagram 1 focused on the Personal Profiling Service and identified how it related to Advice and Guidance, Personal Planning and Feedback services in terms of the UCAS process.

This paper has focused on Advice and Guidance in the context of regional partnerships and identified how the thin model of e-Portfolio may be relevant to their work.

This paper is intended to act as background to the Workshop Pack which will be available in November 2006. This will provide outlines of the Advice and Guidance, Personal Planning and Feedback services, as a basis for projects to develop service expressions of how the e-Framework may help them define the practice they need e-Portfolio to support.

A subsidiary theme that has emerged from this work is the need to specify in more detail the relationship between e-Portfolio and repositories.

ⁱ Sources

Some of the processes covered in Diagram 2 and 3 draw upon a set of scenarios and use cases prepared by Nottingham Trent University for the RIPPL project available from www.nottingham.ac.uk/rippl/keydocuments.htm

Overview

- The use of an e-Portfolio to support transitions between education and the workplace

Transitions

- Transfer from Key Stage 4 to Training
- The use of an e-Portfolio to facilitate the post-qualification transfer from university to full-time employment.
- FE College's use of application data
- Year 11 student applying to an FE College

Simultaneous learning in education and employment (Integrative Learning)

- The use of an e-Portfolio to maximise the student learning experience for part-time learners
- The use of an e-Portfolio to maximise the student learning experience from a period of work placement.