

JISC DEVELOPMENT PROGRAMMES

Project Document Cover Sheet

FINAL REPORT

Project

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Executive Summary

Aims/objectives of the project:

- To propose means of enhancing the learner information contained in a web-based personal statement, as part of a more flexible HE admissions process, responsive to the needs of a wider range of applicants.
- To consider the web-based UCAS application (under development for 2007) as a presentational ePortfolio and to locate it in relation to personal development planning processes, and the records arising from them (progress ePortfolios), on both sides of the transition from FE to HE.
- To test the usefulness of standards-based interoperable technology (via mapping systems to UKLeaP, a version of IMS LIP) for supporting lifelong learning, by concentrating on data transfers between 16-19 education and HE, for individual ePortfolio users moving through a sequence of episodes of study and between different institutions, mediated by the UCAS admissions system.

Overall approach

The project's pedagogic investigations were carried out with FE and HE staff and students in clusters of institutions centring on a Russell Group university in England (University of Nottingham) and a leading widening participation university in Scotland (University of Paisley), in order to capture a range of user needs associated with different study patterns and recruitment regimes.

The project team produced a number of *scenarios* to map stakeholder perspectives and requirements (often conflicting) and, within some of these, developed more detailed *use cases* to identify the information consumed and produced at key points, always with a strong learner-centred focus. These provided the testbed for a methodology for scenario development, which is one of the outputs of the project, as well as the basis for the project's proposal for an enhanced personal statement. The scenario and use case materials are now being used by the current JISC ePortfolio Reference Model project, led by the University of Nottingham, to develop and pilot profiles of UKLeaP within the eFramework.

The picture produced was critiqued and extended through further workshops with other practitioners and seminars held for invited experts, in which the focus broadened from transitions between episodes of study to transitions into employment.

The technical teams within the project concentrated on passing segments of learner data between institutions. After considering a number of approaches, the final choice was to generate UKLeaP directly for exporting data, and to use XSLT files to transform incoming data into a manageable format. This approach to data import provided a scalable solution, where the work required to accept data from a new institution amounted to no more than writing a new XSLT file to match that institution's application profile. As the project progressed interest grew in the eFramework and in a web-services approach to interoperability. In the second year of the project, two scenarios were developed to review transitions between episodes of learning from a web services perspective.

Project findings

That previously 'one-size-fits-all' models, such as the traditional UCAS application, can be tailored to the needs of different types of learner through web-based technology, and that this kind of development by UCAS would be entirely consistent with the DfES eLearning Strategy's concept of personalised learning

That there are indications of broad support among students and practitioners for the project's proposal for an enhanced, customisable personal statement and optimism that, by making more information about borderline candidates available on-line to admissions staff, the time of both candidates and university staff, which might otherwise be spent in interviews, can be saved.

That application processes at different levels of attainment exhibit common patterns of process, such that the ICT developed to support practice at one level should be re-usable at another. This suggests that the complexity and cost of implementing ePortfolios for lifelong learning could be significantly reduced and increases the probability of achieving interoperability.

That data transfers between different ePortfolio systems using UKLeaP work, but that UKLeaP is relatively unwieldy and a different sort of standard (reflected in current work to develop the eFramework) is needed. The best way forward is to break out the monolithic UKLeaP standard into the smaller, simpler interfaces required to pass information between an ePortfolio and a set of ePortfolio-enabled web services, generating a set of much more lightweight specifications upon which standards could be based.

Achievements

The project has:

- Demonstrated how the Schwartz recommendations for Fair Admissions could be implemented - especially the call for admissions processes to take full account of aptitude and potential while being transparent and accountable
- Provided the catalyst required for the complete UCAS admissions system to be mapped to UKLeaP and thus for colleges and universities to develop their capacity to exchange information via interoperable technology
- Proved that UKLeaP works for a specific, mainstream educational function, an achievement which is significant internationally, e.g. in relation to the EU's development of the Europass and to ongoing UK work in the field of international standards for learner information
- Developed studies and influential and sustainable collaboration on ePortfolio development and implementation across FE and HE in two regional centres in different parts of the UK: Nottingham (England) and Paisley (Scotland)
- Produced recommendations for the Schwartz review of admissions and for ongoing work on implementing eportfolios involving DfES, Becta, JISC, UCAS and the FE and HE community
- Produced a range of tangible outputs: methodologies, resources, technical developments, scenarios and use cases, presentations, papers and a website containing all the project outputs at: www.nottingham.ac.uk/e-portfolio
- Disseminated its work in regional, national and international fora
- Identified an approach that can help coordinate JISC activities that can both deliver key aspects of the DfES eStrategy and take account of the other nations of the UK.

Conclusions

There is both a pedagogic and a technical need for the service-oriented approach proposed by the eFramework and, in particular, a need for new, lightweight profiles crossing the boundaries between existing monolithic specifications such as IMS LIP and Enterprise. Preliminary discussions between JISC and BSI are being held to identify how the work of the project could form the basis of standards. DfES are sponsoring BSI to provide the secretariat of the relevant ISO committee, SC36, in order to fast-track standards where this is appropriate. JISC are formal partners in this initiative.

Now that the eFramework is no longer limited to learning processes, it has become increasingly clear how this past work could help redefine administrative and business procedures by placing the learner at the centre of the process. Specific proposals are being developed for how this may allow JISC to complement and strengthen MIAP's work in important ways. (Managing Information across Partners is an important DfES initiative.)

The methodology for developing scenarios and use cases of intended practice has proved effective in identifying the discrete services contributing to and drawing upon ePortfolio for the purposes of admissions and transitions between FE and HE, and could be applied much more widely, both within a fully developed ePortfolio Reference Model initiative and elsewhere within the eFramework.

The methodology for scenarios of practice should be brought together with the development of scenarios of policy, to facilitate effective implementations.

The forthcoming web-based UCAS application provides an excellent prototype of a presentational ePortfolio capable of working in relation to a progress ePortfolio; and the project's proposal for a customisable personal statement, within it, illustrates an important principle: that of enhancing learner information for a wider range of learners by allowing individual applicants for work or study to escape from the straitjacket of an official pro forma into the freedom and versatility of web space. This principle could be transferred to the whole concept of the UK eProgress File and its evolution into ePortfolio, striking a new balance between institutionally-provided pro formas and learner-originated presentational applications.

At the same time, planners and policy makers in the UK should recognise that there may well be a permanent need for 'impure' ePortfolio forms, in those situations where institutional provision is required and elements of quality assurance or legal responsibility or accountability are involved for specific providers.

Background

The nature of the consortium

The project brought into partnership teams in different institutions which had all been involved individually in precursor initiatives. These had included the UCAS New Initiative on Progress Files, the JISC 01/01 project *Developing Learner Profiles Across FE and HE* which involved piloting data transfer between the universities of Liverpool (LUSID) and Nottingham (ePARs) using UKLeaP, Nottingham's work on linking HE and 16-19 education for the DfEE Innovations project 'Making the Links', the FDTL3 project at Oxford Brookes and Thames Valley University on web-based progress files in HE and the University of Leeds' contribution to Universities UK's 'Fair Enough?' project. All this work promised to be of value in contributing directly to the establishment of the more flexible framework for admissions required by the *Future of Higher Education* white paper.

In addition, the involvement of the University of Paisley in the consortium made possible the exploration of a specifically Scottish context. In Scotland the 2+2 model of a two-year HND programme in an FEC, followed by progression to university to take Level 3 and Level 4 (Honours year) is very well established. Understanding of and support for this route into Higher Education in Scotland had been further enhanced through the SHEFC-funded project *Mapping, Tracking & Bridging*, managed by the University of Paisley and developed by the Scottish Advisory Committee on Credit and Access (SACCA). The key findings and outputs of this project were reported at the Paisley launch of the Specifying an ePortfolio project in autumn 2003 and have been of direct relevance in understanding the HN/degree transition and its significance in the Scottish tertiary sector. Furthermore, the University's lead role in the GOALS project (SFC funded), supporting staff and students in FE in raising aspirations and assisting decision-making in the transition to HE, was also of key relevance to the present project. With commitment to enhancing the support for students and continued concern about transition and retention through this route, PDP and the aims of this project seemed likely to be of great relevance.

The partnership was also to benefit extensively from the expertise of Peter Rees Jones from CETIS LIPSIG and the University of Leeds, on the development of international data standards and routes towards interoperability in HE technology. BSI had recently agreed that any standards for learner information within the UK should use LIP 1.0. Peter Rees Jones had been a member of the team that proposed that BSI should develop a formal standard for IMS LIP and had contributed to the development of a standard capable of supporting ePortfolio.

Nottingham's PDP VLE, ePARs (electronic Personal and Academic Records), had built upon a Newcastle-Nottingham project carried out with DfES HEQE funding 1998-2000. It is the leading example nationally of a web-based Progress File fully implemented across a pre-1992 university; and the pedagogy behind it, arising from the HEFCE FDTL1 PADSHE Project 1996-2000, had been very widely disseminated and taken up by a range of HEIs, including the University of Reading, University College Northampton, Manchester Metropolitan University and City University. In addition, the University had recently begun to develop collaborative work with the City of Nottingham Passport initiative, a project to introduce an on-line progress file for 14–19 students within the City of Nottingham LEA.

The need for the project

The project team sought to respond to a need within a strategic area of FE-HE policy: Widening Participation – an area in which new arrangements were being developed rapidly by universities with partner colleges and schools. Given that the DfES had initiated a consultation process on Fair Admissions under the chairmanship of Professor Stephen Schwartz, the need to support widening participation students to demonstrate aptitude and potential for HE study, not just past achievement, was in the spotlight. The consortium, in discussion with UCAS, recognised the opportunity, provided by the planned upgrade to web-based technology for the 2006 UCAS admissions cycle, to enhance the learner information required by UCAS and to develop more widespread uses of it. The main goals were a more flexible admissions process and support for a continuum of learning and development running through from 16–19 into the HE component of Lifelong Learning, achieved by linking the UCAS application to PDP and the personal development records which arise from it, on both sides of the transition.

At the time when the project proposal was made, HEIs did not receive an electronic version of all the information contained within the UCAS form, but were clear that it would be very useful to do so, for a wide range of administrative and pedagogic reasons. Several years previously, UCAS had piloted the use of a proprietary XML standard to pass data to Medical Schools. The proposal was that IMS LIP 1.0 should be used as the standard, since this would be more readily integrated into institutional systems making use of IMS specifications. This would make it easier (and cheaper) for institutions to use the information within the UCAS form to support both business processes and the personal and academic development of the learner within a VLE. This would, in turn, aid the retention of students.

Potential impact

The UCAS application would be an important focus for the work, both because of its reach and influence throughout the FE and HE sectors and because of its capacity to exemplify a generic process. Although specifically intended to support applications to Higher Education, the UCAS material contains the broad categories of information required to support application processes in many different contexts in education and employment. It provides the basis for a generic specification comprising: a statement of qualifications (similar to a Transcript) and of work experience, a personal statement from the applicant and a reference. Ideally it might also include links to a portfolio of the applicant's work.

Thus the impact of this project would be nationwide. As well as enabling data transfer using LIP between FE, UCAS and HE, it would result in FECs and HEIs developing the capacity to exchange learner information directly and would support a range of further initiatives for widening participation. For instance, Nottingham had been working with local Sixth Forms and FE colleges as part of its Widening Participation strategy and had opened its ePARs system for use at a pre-entry stage by students progressing to the University. The University was also developing a portal, which would make on-line learning available to pre-HE students as a key tool for widening participation.

The team also anticipated working with the DfES Progress File team, following the completion of the web portal for post-16 students, including the Progress File component *Source*. *Source* was a web-based version of the DfES *Widening Horizons* and *Broadening Horizons* PDP materials and was, at that point, available to all schools and colleges in paper and CD formats. However, the Tomlinson review of 14-19 education was also under way and early indications showed

significant consensus between the Tomlinson and Schwartz teams on moving definitions of learning and achievement forward to engage with concepts of individualised and holistic development, concepts which would require something very like ePortfolio technology, rather than an eProgress File, for their support.

The international dimension – A. Impact on Standards

In 2002 Peter Rees Jones had been contracted to the CEN/ISSS WS LT to develop guidelines for the production of learner information standards and specifications in Europe. This was published as CWA 14926 in 2004 and reported to ISO / IEC as a working document to inform the development of global international standards (SC36 N0791). On the basis of work funded by JISC this recommends that future standards in this area be based upon the approach provided by IMS LIP. This emerging work was reported to BSI in 2003 and Peter Rees Jones worked with the IST 43 committee to develop a business case for the development of a formal British Standard in this area. The UK government was developing a long term strategy for the use of ICT to enhance learning and Cabinet Office promoted the development of a British Standard, UKLeaP / BS8788 out of IMS LIP. This is the first time that an IMS specification has been standardised. The ePortfolio project was therefore potentially of international significance in piloting the use of UKLeaP and seeking to demonstrate that IMS LIP works.

The international dimension – B. Impact on practice and policy

It was clear to the team at the bidding stage – from Peter Rees Jones's networking with colleagues across Europe - that the development of technology to support Lifelong Learning was a key policy issue for the EU Commission and the governments of a number of member states of the EU. The specific focus of interest was, and continues to be, the development of learners' abilities to develop new skills throughout their lives and, in this way, secure wider opportunities for themselves (social inclusion), providing the more flexible and skilled workforce required to establish Europe as a leading knowledge-based economy (the Lisbon Process).

The UK was perceived to have made the greatest long-term investment in this policy area, through a series of technical innovations. These could be of significant practical benefit throughout the continent.

Aims and Objectives

The original aims and objectives of the project were as follows:

Aims:

- To develop the more widespread use of enhanced learner information, encapsulated by a revised UCAS electronic application format, as a major contribution to the more flexible admissions process (concurrently out for consultation from the DfES Schwartz Group) in support of:
 1. widening participation to HE
 2. achieving continuity between Progress File in 16-19 education and Progress File in HE
 3. Lifelong learning.
- To provide a set of generic processes leading to a LIP application profile for post-16 PDP developments and learner transition into HE (including [traditional] UCAS entry, 2+2 entry, etc), employment or further training.

Objectives:

1. To propose pedagogical principles for an extension of the UCAS form in line with the emerging new flexible framework for HE admissions
2. To transfer applicant data from FE to HE, joining up PDP processes and Personal Development Records (PDRs) in specific partnerships bridging FE and HE
3. To transfer enhanced applicant data from UCAS into a MLE in each of the three HEIs in the consortium
4. To provide, publish and report (to both national and international bodies) a technical specification for an IMS LIP application profile, for the transfer of enhanced learner information through an admissions process into a MLE in HE
5. To manage, report, evaluate and disseminate the project activities.

How the objectives changed in the course of the project

The original concept was of three local partnerships of HEIs and FECs, based in Nottingham, Leeds and Paisley, pursuing linked activities to join up PDP processes and to pilot data transfers, including exchanges with UCAS systems. The potential impact of the work with UCAS, however, made the project move more quickly than anticipated into engagement with national agendas. The nature of the balance between local and national activities shifted significantly in the course of the project, so that by July of the first year the project plan had been revised to include the extra objective, 'To take account of external (national) events'. This effect was enhanced by the fact that the work of the DfES Schwartz committee on Fair Admissions was running in parallel with the first year of the project work and the project was able to contribute directly to it. Throughout the project, government interest in progress files and especially ePortfolios for lifelong learning, at national and international levels, continued to strengthen and thus confirmed the project's change of perspective.

Peter Rees Jones's role as convenor of the CETIS LIPSIG, together with the international perspective he was able to bring to the project, suggested part-way through the first year that his major contribution lay with the development of scenarios and use cases, and indeed of protocols for their development which could be tested iteratively through the activities of the 'Specifying an ePortfolio' project. (Subsequently they were introduced and used across the whole JISC MLEs Phase II programme, under the aegis of the Lifelong Learning Support

Project.) Thus the steering committee agreed that the local work based in Leeds should be set aside in favour of this more strategic agenda.

When institutional timetables at Paisley for internal IT developments were modified, with the effect that data transfers would not be possible within the lifetime of the project, the Paisley emphasis changed in favour of more intensive work on pedagogical developments for PDP across FE and HE and on the implications for UCAS admissions processes of the 2+2 programmes, the main route for widening participation in Scotland. The testing of UKLeaP (BS8788) for data transfers between FE and HE and between UCAS and HE thus became limited to collaborative work between the Nottingham-based contributors (the Passport and the University) and UCAS, designed to produce proof of feasibility.

There were plans, originally, to consult and disseminate in Yr2 of the project on a discipline-specific basis through LTSN subject centres related to the specific subject areas engaged in the local work at Paisley and Nottingham. These were replaced by plans for national consultation events for specific groups of stakeholders (including employers, whose interests became increasingly relevant), because it had become clear that the work needed developing at a generic level. Distinctions between disciplines are less significant than distinctions between different routes and modes of study adopted by individual learners following variations on a series of basic pathways through episodes of study and/or employment.

Summary of modifications to specific objectives:

1. To propose pedagogical principles for an extension of the UCAS form in line with the emerging new flexible framework for HE admissions

Changes during the project: It was necessary for the project to focus on a specific part of the UCAS application as a realistic target, so the Personal Statement section was chosen. The objective became to develop scenarios and use cases from which to propose and illustrate the use of a structured, customisable web-based template version of the personal statement.

2. To transfer applicant data from FE to HE, joining up [electronic] PDP processes and Personal Development Records (PDRs) in specific partnerships bridging FE and HE

Changes during the project: As noted above, data transfer has been limited to Nottingham in the end, with detailed work at Paisley on the pedagogy of joining up PDP processes bridging FE and HE.

3. To transfer enhanced applicant data from UCAS into a MLE in each of the three HEIs in the consortium

Changes during the project: The roles of the three HE partners diversified in the course of the project, as described above, so this objective became Nottingham-specific. The unfunded basis of the project's collaboration with UCAS meant that UCAS's own agendas necessarily took priority over project objectives, with the effect that, once the UCAS timescale for implementing enhanced learner information lengthened, it became clear that the transfer of UCAS data using UKLeaP which would be possible within the project timeframe would not include enhanced information. However, the engagement of Nottingham with UCAS in this process has led directly to a complete mapping to UKLeaP of UCAS's system, to be trialled officially by UCAS with early implementing institutions, on a voluntary basis, from autumn 2005 for 2006 entry.

4. To provide, publish and report (to both national and international bodies) a technical specification for an IMS LIP application profile for the transfer of enhanced learner information through an admissions process into a MLE in HE.

Changes during the project: It became apparent in the course of the project that it would be premature to report and publish this because (a) UCAS trials are planned but still to get under way and (b) it had become clear that a different sort of standard (reflected in the subsequent work to develop the eFramework) would be needed.

5. To manage, report, evaluate and disseminate the project activities

Changes during the project: On the pedagogic side of the project, the main activity was to develop a proposal for an enhanced personal statement; thus we realised that we needed to consult rather more than disseminate – the priority was to engage stakeholders in the ongoing development of the proposal. At the same time, dissemination opportunities at the international level became available in European arenas in France and Germany

Methodology

The project required the development of a methodology in order to identify some of the basic uses of enhanced learner information and the role such information might play in transitions and progression to HE. The methodology of constructing **Scenarios** provided a means of mapping stakeholder perspectives and requirements, while **Use Cases** provided an outline of the information consumed and produced during key episodes within a scenario (from which more formal profiles will be produced in the subsequent ePortfolio Reference Model project). This project's work to evolve and test the methodology provided the basis of the LLSP Scenario-building Resource Pack (a new eFramework version is currently under development).

There was a deliberate decision to maximise the range of the pedagogical fieldwork by concentrating on the different characteristics of the two HEIs involved. The University of Nottingham team worked on user requirements with admissions tutors and admissions officers in both selecting and recruiting disciplines, English Studies and Engineering, to explore the range of current and potential future practice within a Russell Group institution in handling the UCAS application, especially the personal statement and the reference fields. The study was complemented by further work with one FE partner in Nottingham, a sixth-form college with an outstanding record in progression to higher education, and with the team developing the City of Nottingham Passport. By contrast, the University of Paisley focussed on the use of enhanced learner information for the recruitment of candidates within a range of widening participation contexts, represented by James Watt College and Clydebank College. The central activity was to plan the use of PDP to broaden the evidence considered by admissions tutors who need to take into account aptitude and potential, as well as skills and knowledge – giving a more fine-grained and developmental view of the candidate. The team also considered the wider potential of this information for use in the receiving institution, to support induction and learner retention.

Detailed exploratory discussion in workshops with practitioners and stakeholders, about the needs of their learners and about their own and their institutions' current and intended practice, provided the bases for scenarios and use cases which were drafted either by the team or the stakeholders themselves. These stakeholder groups include FE guidance tutors and HE admissions tutors, FE and HE students, and employers. Consultation seminars were held at Nottingham (June 2004 and June 2005) and in Paisley (January 2005 and May 2005). (Please see **Appendix 1** for outcomes of discussion with employers at the first Nottingham event and **Appendix 2** for results of evaluations from both Nottingham seminars.) These informed further revisions of the scenarios and use cases and updated drafts were published on the project website for the information of the community and to facilitate dialogue with practitioners. Further use cases for development were often identified in the course of following through this process.

The *Specifying an ePortfolio* project grew out of Scenario A, which formed the basis of the bid to JISC and proved a useful formative tool for developing the project. (Scenario A can be viewed at this url: <http://www.nottingham.ac.uk/eportfolio/keydocuments/scenarios/Exemplar%20scenario%20eP%20to%20support%20transitions.doc>). Through the course of the project, the **scenario and use case methodology** came increasingly into focus as a result of collaborative and iterative developmental work by different combinations of team members engaging with each case in turn. The first one was produced by Alan Paull of UCAS, in the form of descriptive text. Then, as

further use cases were elaborated, the key generic dimensions and components became fully evident and were tabulated, resulting in the design of templates. These were refined and eventually simplified sufficiently to be used fairly readily by other projects across the programme, facilitated by the LLSP.

Originally developed to identify and communicate requirements, the sequence of scenarios of practice began to reveal interesting and unexpected issues, especially the differences between what motivated different stakeholders. By telling the 'story' from the perspective of the learner, some of the issues could be resolved and the methodology was developed to provide more detailed use cases of key incidents within the overall narrative.

On the technical side, the project concentrated on passing segments of learner information between institutions. The transport mechanism used for **data transfer** was not mandated, since the goal of the project was concerned with the proof that UKLeaP is workable as an interoperable standard. Several approaches to the interface between the Nottingham ePARs database and UKLeaP were considered, including representing the UKLeaP schemas as C# objects as an interim stage. The final choice was to generate UKLeaP directly for exporting data, and to use XSLT files to transform incoming data into a manageable format. This approach to data import is a scalable solution, where the only work necessary in order to accept data from a new institution is to write a new XSLT file to match that institution's application profile.

From the project team's perspective, scenarios and use cases have been developed alongside the technical work, providing a general context. These materials have scoped the work which JISC and Becta need to undertake to provide continuing support for learners through school, college, university and employment. Specifically, the scenarios and use cases provide the basis for the *ePortfolio Reference Model project*. Here the materials gathered by the *Specifying an ePortfolio project* form the basis of specific use cases of interfaces between ePortfolio and web services, for which profiles of UKLeaP will be developed and then piloted. This work is founded on the *eFramework*. An example of this approach is attached as **Appendix 5**.

Work on this new *eFramework* based approach began within the *Specifying an ePortfolio project* in November 2004 and was central to the project's international invitation seminar, consulting on the findings of the project, in June 2005. This confirmed that the scenarios, use cases and technical profiles produced by the project were potentially adaptable for re-use by other sectors and that the *eFramework* offered a means of working with partners on the development of common profiles and standards. The *ePortfolio Reference Model project* is producing a new version of the *Resource Pack* to support this.

Implementation

- 1) The project work was planned through regular meetings of the core project team which included representatives of Nottingham, Paisley (sometimes by video link) and UCAS, Peter Rees Jones, and Phil Harley from the Passport, with the guidance of the steering committee which met five times. From an early stage we instituted further meetings specially for the C&IT specialist staff, a cross-institutional grouping (representing technical teams in the University of Nottingham, Atomic (Nottingham Passport) and UCAS) which provided peer mentoring and developed a life of its own, with input from Simon Grant from the MLEs Support Project, as a UKLeaP specialist with an overview of developments across the programme and beyond it.
- 2) We maintained regular engagement with local, regional, national and international developments in admissions, PDP and ePortfolio – including attendance at and presentations in various conferences and seminars in UK and elsewhere in Europe, contributions to national consultation exercises (such as to the Schwartz and Tomlinson consultations, and, in Scotland, the Effective Learning Framework consultation).
- 3) A programme of pedagogic fieldwork was carried out, longitudinally, at Paisley and Nottingham, consulting local stakeholders – FE and HE staff and students, and employers – in order to develop the scenarios and use cases mapping the current and intended pedagogical and technical requirements of an ePortfolio for admissions and transitions into HE. In Nottingham, joint workshops were held with FE students and staff by the teams from the University and the City of Nottingham LEA; these events involved introducing the use of the Passport and experimenting with different levels of supporting information for developing personal statements by a three-stage iterative process. Additional work at Paisley involved collaboration with UCAS, whose staff provided assistance with the development of the Information Model and leadership of a student consultation focus group.
- 4) Arising from the fieldwork and taking advantage of UCAS's planned move into 100% web technology for 2007 applicant entry, new processes were designed and discussed with stakeholders. The project proposed that the relationship between a student's online UCAS application and his/her on-going web-based PDP could be viewed as that between a 'presentational' ePortfolio (or even a whole set of presentational ePortfolios – one for each course applied for) and the learner's 'progress' ePortfolio. Within the framework of a presentational ePortfolio application, a revised concept of the Personal Statement was developed, suggesting that, through the use of a soft template, it could be presented as a series of customised, programme-specific statements. The soft template would structure a personal statement in sections, including some which would display, as prompts to guide the student in completing the application for a specific course, the key qualities for success defined within the UCAS Course Entry Profile. A demonstration tool was built to illustrate the feasibility of this idea. In a more developed version it was envisaged that the candidate would create links to their PDP evidence (progress ePortfolio) from any of the customised versions of their personal statement, providing access to a potentially rich resource of supporting material (enhanced learner information). Full details of the pedagogical work around the development of the concept of the soft template are provided by the following two illustrative studies: www.nottingham.ac.uk/e-portfolio/keydocuments/case%20studies/NottmCaseStudyMay05.doc and

www.nottingham.ac.uk/e-portfolio/keydocuments/case%20studies/CaseStudyPaisleyMay05.doc

One study focuses on the use of the personal statement soft template by admissions staff differentiating between high achievers; the second on supporting transition into HE by mature Access students.

- 5) Technical: In the first pilot, the amount of data we aimed to transfer between the City of Nottingham Passport system and ePARs was limited – due to issues with the standard, encountered previously, which prevented different elements of data from being uniquely identifiable. Some of the data had to be manually entered before being marked up by the system, since certain data pertinent to UKLeaP is not stored in the Passport database. A revised version of the City of Nottingham Passport system, called Nottingham Passportfolio, is currently under development. This development bases its database structure around the UKLeaP schemas, which will greatly improve the importing and exporting process. In the pilot, data was exported directly to UKLeaP using an online form. This data was then imported into the ePARs database through a desktop application which applied two data transformations en route. The first transformed the City of Nottingham Passport application profile to the University of Nottingham application profile. This was then transformed into an interim XML document which represents a database containing tables, rows and items. A parser was then run against the database XML, which generated SQL statements to insert the data into the database.
- 6) Evaluation was largely qualitative and ran in parallel with other project activities from an early stage. The development of scenarios and use cases was an iterative process, repeating the cycle of: consulting on proposals, collecting information about the needs of further types of users suggested by respondents, receiving feedback and revising the proposals, ready for further consultation. Technical developments were evaluated through peer exchange and review facilitated by the regular meetings of C&IT staff from the full range of institutions involved, as noted in paragraph 1) above. In addition, to cover both technical and pedagogic dimensions of the project, two External Evaluators were appointed and worked with all members of the core team through visits to Paisley and Nottingham and attendance at steering committee and team meetings and at the major project consultation events in June 2004 and 2005. (Reports in **App.2**)
- 7) In autumn 2005 Peter Rees Jones developed Scenarios C and D (sets of 'thin use cases') reviewing transitions between episodes of learning from a web services perspective. It was becoming clear that each of the four scenarios of practice identified by the project could be represented as UML Activity Diagrams but that this was not the best means of representing learning flows. This work was presented to the Europass Workshop at the University of Koblenz and at Online EDUCA in autumn 2004. It has also formed the basis of work under the current ePortfolio Reference Model Project to define discrete ePortfolio enabled services within the eFramework. Service interfaces are now being specified and an initial presentation on this was made at alt-i-lab 2005.
- 8) Ideas about interoperability for ePortfolio evolved significantly in the course of the project. This aspect was well illustrated by the change of approach/content between the major invitation seminars held in June in each year of the project. For the first seminar the key question was: How far might a single ePortfolio process be achievable to support both education and employment pathways? By the second seminar, we were asking whether a single definition of an individual web service could be devised which would operate in both education and employment – we were no longer trying to define a single ePortfolio process, rather emphasising the nature of interactions/interfaces between an essentially

customisable ePortfolio web space and an array of possible services within the eFramework.

- 9) Alongside this development, the world of work came into increasing prominence in the course of the project, as activities moved not only into further episodes of education but also out in the direction of employment. The pressing question became: What will ePortfolio for Lifelong Learning look like?
- 10) Networking with other projects was a helpful part of implementation, developing familiarity with cutting-edge ideas at the JISC programme meetings through collecting responses to our own presentations and engaging with presentations by other projects, and also organising collaborative activities at other times. The project director visited NIIMLE in Belfast and the team had two joint meetings with the project led by Loughborough College, organising a further very useful session on ACCLIP, led by Loughborough, for the benefit of pedagogical and technical staff from UCAS and Nottingham.
- 11) Although the project was clear that, in developing the scenarios and use cases, it was important to place the emphasis on consultation rather than upon dissemination in any conventional sense, the programme of consultation activities was in practice well complemented by a series of dissemination events. For these we often took advantage of existing opportunities provided by stakeholder groups and organisations, enhancing our contact with teachers and tutors from FE and HE, employers and policy makers. For example the project's work was represented in England at the UCAS Admissions Officers' Conference (2004 and 2005), the CRAC conference (2004) and the CRA LLSP conference in Sheffield (May 2005); in Wales at the all-Wales progress files conference (2004); in Scotland at the national learning and teaching conference in Paisley (Sept 04), the PDP HE Scotland event (Jan 05) and within the development process for the ISLE Project (under the SFC eLearning Transformation programme); elsewhere in Europe at events in Paris, Brussels, Koblenz, La Rochelle, Prague, and Berlin in 2005. The scope of this networking activity offered a range of opportunities for developing partnerships for further work.

Outputs and Results

Note: Unless indicated otherwise, links to all of these outputs are on the project website at www.nottingham.ac.uk/e-portfolio

Technical developments

- UCAS system mapped to UKLeaP (pilots 2006-07 for 2007 entry)
- Data transfers carried out using UKLeaP between Nottingham Passport and University of Nottingham and between UCAS and University of Nottingham
- Interim technical report (more developed version, incorporating experience of RIPPLL project to follow by end of September 05), including:
 - Outline of experience of working with LIP
 - Technical documentation: profiles of LIP/UKLeaP for the pilots in conjunction with UCAS
- Technical solution: basic illustration of implementation of structured personal statements mandated by HEIs via web services (<http://comp.ebrey.net>).

The soft template prototype for the structured personal statement is a web based application written in PHP. It utilises web services to retrieve the personal statement prompts for a given course from the university being applied to.

The soft template prototype consists of 2 parts: the service hosted by the HEI and the "client" hosted by the PDP application. The server/HEI side hosts a web service which serves data from an underlying database. This database contains one table which holds an XML document for each course code. The XML document contains each of the prompts the institution would like to present to applicants for that course.

The "client" side resides with whichever PDP application wishes to use the structured personal statements. In the prototype, this is another database table to hold user id, institution id, course id, question id and answer. Whilst the same site is acting as both the client and the server, the communication between them is using web services and as such, they could easily be separated.

<http://comp.ebrey.net/about.php> gives a brief overview, then links to the more detailed explanation of the processes involved, which in turn has a reference to the location from which the code can be downloaded.

Briefings, i.e. interactions with national policy development

- Briefing paper input to Schwartz committee, January 04
- Response input to the Schwartz consultation on draft report on Fair Admissions to HE, May 04
- Formal advice commissioned by DfES from Peter Rees Jones prompted by the JISC work at Nottingham (Specifying an ePortfolio and the ePortfolio Reference Model projects) identifying how the findings of this work could support the implementation of the department's eStrategy. The IPR belongs to DfES; Peter Rees Jones is discussing general release of this with DfES.

Resources

- Document set: 'Proposal for a soft template for structured personal statements providing enhanced learner information linked to UCAS Course Entry Profiles and personal development planning (PDP)'
Contents:
 - The proposal – description and discussion of an enhanced, structured personal statement
 - Appendix A: Scenario: Use of a soft template for structured and enhanced personal statements
 - Annex A1: Use Case: The use of structured and enhanced personal statements to select Yr13 Widening Participation applicants to HE without interview
 - Appendix B: Structured personal statements – two illustrations
 - Illustration 1: Possible prompts, derived from course entry profiles, for a structured personal statement in a selecting subject: English Literature, with possible applicant responses
 - Illustration 2: Possible prompts, derived from course entry profiles, for a structured personal statement in a recruiting subject: Engineering, with possible applicant responses
 - Appendix C: Two practice-based illustrative studies
 - Study 1: ePortfolio for high achievers: an enhanced personal statement for admission to oversubscribed courses in higher education
 - Study 2: ePortfolio for Widening Access to HE: Raising aspirations and supporting mature learners through the processes of admission and transition to HE in Scotland
- An integrated methodology, covering technology, policy and both pedagogic and administrative practice, including:
 - *A methodology for scenario building:*
The project evolved and pioneered a methodology for building scenarios which JISC then commissioned CRA to develop into a Resource Pack, by building workshop materials for other projects to make use of. Peter Rees Jones played the leading role in both developments.
 - *A methodology for building use cases:*
Scenarios of Practice identified key episodes for the use of data, requiring detailed study (use cases), and the project duly developed a set of conventions focused on the provision, processing and output of information. These conventions were also made available to CRA for the "Resource Pack". From November 2004, following the publication of the Resource Pack, these conventions have been adapted to make use of the *eFramework* and a further version of these conventions is forthcoming shortly.

The project also indicated a need for *a methodology for connecting scenarios of practice with scenarios of policy*, which is being developed through continuation work. A major theme of the project's advice to DfES was the need to develop a means by which Scenarios of Practice could take account of Scenarios of Policy and contribute to the further development of policy. Recommendations made by the project have been actively discussed in the Department over the summer.

These methodologies were not specified as deliverables in the original project proposal but were necessitated by the issues the project identified and represent important resources to support future work in this and other domains.

Scenarios and use cases

Scenario A was the starting point of the project, shown in **Appendix 3, Diagram 1**. The project went on to produce 8 related scenarios and 8 use cases, which are mapped visually against Scenario A in **Appendix 3, Diagram 2**.

- Scenario O: learner moves from school to FE - an AimHigher student uses the Nottingham Passport to progress from Year 9 to Year 13, and to apply to HE (Author: Nottingham Passport)
 - Use case O1: Y11 student applies to FE with potential to be first-in-the-family applicant to HE (Author: Nottingham Passport)
 - Use case O2: FE college use of learner application data provided through an admissions process (Author: Nottingham Passport)

- Scenario A: The use of ePortfolio to support transitions between episodes of learning (Author: University of Leeds)
 - Use case A1: A student uses a New Entrant Profile to introduce him or herself to his or her tutor in HE (University of Nottingham)
 - Scenario Aa: A GCE A level school leaver submits applications for undergraduate HE via UCAS and receives a response (Author: UCAS)
 - Scenario Ab: Use of a soft template for the personal statement element of a web-based application to HE (Author: University of Nottingham/ University of Paisley)
 - Use case Ab.1: Admissions tutor uses extended, customised information to assess aptitude/potential of Y13 Widening Participation candidates without interview (University of Leeds/University of Nottingham)
 - Scenario Ac: PDP in Scotland used to prepare for 2+2 application to HE (Author: University of Paisley)
 - Scenario Ad: Next Steps - using a purpose-written module to prepare FE students on a 2+2 route for university entry in Scotland (Author: University of Paisley)

Staff and student responses to some of the scenarios developed from Scenario A were collected through a series of meetings and workshops convened by the University of Paisley, with input from external evaluator Marjorie Allen and UCAS partner Pip Gilroy. Key FE staff responses included these points:

- This project is clearly aligned with current education policy in Scotland where e-portfolios are significant for future developments.
- There is a need for portfolio evidence to contribute to the support and guidance which staff provide for students in their chosen learning programmes. However, staff training will be required.
- Use cases are helpful tools to support the future roll-out of PDP in colleges.
- There is a need for HE to provide course entry profiles, making explicit the skills, knowledge, experience and qualities which admissions tutors seek
- There is some concern that a soft template for the Personal Statement should neither (a) restrict students' opportunity to express their individuality nor (b) make the HE application overly complex
- There are concerns about the robustness of ePortfolio technology, and security and validation issues.

A focus group of HE in FE (2+2) students, convened at Paisley in January 2005, who do not yet have experience of on-line PDP, articulated the following perceptions. They:

- Associate IT with depersonalisation
- Perceive transition from college to HE as a move into a larger-scale, relatively depersonalised learning environment
- Feel positive about the electronic UCAS application and about the idea of PDP material both contributing to the UCAS application and being carried forward to form the basis for a first meeting in HE with a personal tutor.

The full report, by Pip Gilroy of UCAS, is available at www.nottingham.ac.uk/e-portfolio/keydocuments/PGPaisleyFocusGroup.doc

There are four broad target Scenarios underlying the Nottingham-based ePortfolio work:

- A: Learner moves from college to university
- B: Learner moves from college to employment
being developed by the JISC regional eLearning project, RIPPLL, led by the University of Nottingham
- C: Learner moves from university to employment:
two *outline* use cases relating to application to employment after first cycle HE, providing the preconditions for induction to employment (C1, C2)(Author: Peter Rees Jones)
- D: Learner moves directly from first cycle HE to second cycle HE:
preconditions and two sets of *outline* use cases, for application to Higher Education in 2006 (D1) and for a similar application in 2010 (D2)(Author: Peter Rees Jones)

The methodology produced by the project was developed formatively through its scenario and use case work and the materials produced reflect the evolution of the methodology. For example, the “thin use cases” for scenarios C and D, produced in autumn 2004 for dissemination at international events, prefigure the more formal conventions now proposed for the *eFramework* through the Nottingham *ePortfolio Reference Model Project*, for which a new version of the Resource Pack should be produced. The materials therefore reflect this development of thinking. Materials for Scenarios C and D will be extended and formalised within the work of the Nottingham *ePortfolio Reference Model Project*.

Workshop materials

Workshop activity templates designed for the international invitation seminar ‘ePortfolio into Employment’ in Nottingham on 16 June 2005:

- Scenario building: Topics included:
 - Transitions to work/work-based learning from school or college
 - Adult learners needing to upgrade their skills
 - Learner undertaking concurrent education and employment
- Comparison of similar web services in education and employment contexts: Functions considered:
 - Assessment
 - Advice/mentoring/guidance
 - Curriculum
 - Planning

Reports

- Paisley Admissions Forum report, January 2005
- Report on University of Paisley [Student] Focus Group, 21 January 2005, by Pip Gilroy, UCAS
- Report on workshop at MLEs dissemination conference, Sheffield Hallam University, May 2005
- Paisley Conference Report, May 2005
- Final pedagogic evaluation report
- Final report
- Completion report

Papers

- Pedagogical Issues - a Scottish perspective (May 2004)
- Building scenarios paper (May 2004)
- Issues for employers: Findings of consultative seminar (June 04) on the potential for convergence between needs in education and in employment An Appendix to this report published in its own right on website as well as part of this report
- Integrating an ePortfolio within a University and the wider community: paper presented by project team members at ePortfolio 2004 Conference, La Rochelle (October 2004)
- Achieving Sustainable Lifelong Learning: Reference Model and Map of Use Cases (Nov 2004)
- Positioning and Dissemination of the Project in the UK (Nov 2004)
- European Perspectives (Nov 2004)

Presentations

31 Powerpoint presentations, delivered at regional, national and international conferences, seminars or workshops – please see **Appendix 4** for a complete list

Publications

- Executive briefing on ePortfolio developments at Nottingham – forthcoming by end of October 05
- Project website, publishing all project deliverables, plus contact information, project news items and links to associated related materials (www.nottingham.ac.uk/e-portfolio)

Outcomes

Project aims

- To develop the more widespread use of enhanced learner information, encapsulated by a revised UCAS electronic application form, as a major contribution to the more flexible admissions process (reviewed by the DfES Schwartz Group) in support of:
 - widening participation to HE
 - achieving continuity between Progress File in 16-19 education and Progress File in HE
 - Lifelong learning.
- To provide a set of generic processes leading to a LIP application profile for post-16 PDP developments and learner transition into HE (including [traditional] UCAS entry, 2+2 entry, etc), employment or further training. The methodology which the project produced is leading not to a single LIP application but to a set of application profiles reusable across post-16 education.

Broad outcomes

International outcomes – standards

The ePortfolio project is of international significance because it has piloted the use of UKLeaP and proven that IMS LIP works. It has scoped the further work required to operationalise UKLeaP / IMS LIP, in particular the development of profiles of UKLeaP for specific mainstream functions, such as application to University. The work for UCAS in the UK is paralleled by the consultancy required by CEDEFOP at European level, who are responsible for the standard Europass Instruments, including the Diploma Supplement that replaced the HE Transcript in the UK in 2005.

From a European perspective, JISC work has led to the development of a UK standard that meets a common European requirement. The ePortfolio project has demonstrated the viability of this approach. BSI are in close contact with other national standards bodies in Europe to make common cause for the development of an ISO (rather than a CEN) standard for learner information and other areas. The UK government is funding BSI to take responsibility for the ISO SC36 secretariat to fast-track the standards required by the eLearning strategy.

The development of UKLeaP is central to these developments and, without the work within the project to prove it, it is unlikely that these developments would have been possible.

International outcomes – Practice and policy

In presenting the work of the project to European audiences it became apparent that US definitions of ePortfolio did not take adequate account of particular types of practice. For example in the Netherlands and the UK universities and colleges have established processes by which students develop their ability to manage their own learning throughout life which in the UK are termed "Personal Development Planning" (PDP).

A marked difference between the US and Europe is the lack of government involvement in the development of policy for ePortfolio. The following propositions were developed to summarise the position:

- National governments and the Commission have an important role to play in promoting the use of e-portfolio throughout society.
- The learner should be able to take an e-portfolio offered at one stage of learning into the next stage of learning, whether in education or employment. In this way learners will develop a Lifelong e-portfolio.
- The active services and tools that enhance learners' development should be included in the European definition of e-portfolio.
- The use of an e-portfolio can increase the opportunities open to any citizen and in this way help meet the need of the European economy for a highly skilled and flexible workforce.

There is therefore a real prospect of the UK offering international leadership in this area, based upon the work of JISC, including the work of this project.

National outcomes

UCAS, FE and HE: As a result of this project, UCAS has mapped not simply the personal statement element of its application to UKLeaP, but also the entire UCAS domain. Pilots will run in 2005-06, ready for implementation in the 2007 round of applications. UCAS making use of UKLeaP means all universities and colleges will develop their capacity to do so. Given the similarities between the patterns within superficially different processes, they will find themselves able to build additional exchanges of information at relatively low cost.

UKLeaP: While the project has established that UKLeaP works, it is also clear that simpler, more lightweight solutions are desirable and practicable. As a result of this experience the team are now breaking out the monolithic UKLeaP standard into the smaller, simpler interfaces required to pass information between an ePortfolio and a set of ePortfolio-enabled services. This work will be reviewed in Spring 2006 by Scott Wilson with a view to proposing a simplified set of lightweight specifications to IMS that could be fast-tracked through ISO. In these respects, the project in effect constituted a scoping study for the development of an ePortfolio Reference Model and is in a position to offer recommendations to JISC to inform calls for further work. Please see **Appendix 3 Diagram 3**, an illustration of an early proposed workflow for building a reference model of ePortfolio for Lifelong Learning, which was developed directly out of this project.

Schwartz and HE: There are strong synergies between the emphasis of the Schwartz Report for DfES on Fair Admissions, this project's focus on holistic assessment for learners on an individual basis and its support for UCAS course entry profiles. Our use cases on the structured personal statement demonstrate how Schwartz's call for admissions processes to take full account of aptitude and potential, while being transparent and accountable, could be implemented. Taken together with the current trend for increasingly centralised handling of admissions in HEIs, they provide new impetus for a full implementation of UCAS course entry profiles across the sector. The project also proposes an optimal implementation of the Schwartz proposals through connecting the learner's application process with ongoing PDP. We would argue the benefits of this option even in the case of selection for places on highly competitive courses, whether or not there is a move to use additional tests.

Scotland: The use of scenario and use case methodology to explore the admissions and transition process has had two wider impacts at the University of Paisley, and its partner institutions:

- It has contributed directly to the specification of business processes and fields within the Student Information System (SCT Banner) Implementation at the University of Paisley, which has been running concurrently during the life of the present Project.

- It has informed the development of the successful Scottish Funding Council bid - Individualised Support for Learning Through ePortfolios (ISLE) - under the eLearning Transformational Projects initiative. Within eleven FE/HE institutions across Scotland, the Project has utilised the methodology to conceptualise an enhanced model of support for learners through transition grounded in shared concept of PDP and the use of ePortfolios.

Employers: The project's Invitation Conference in June 2004 put forward the proposition that, on the basis of the Scenarios of Practice developed by Nottingham, PDP and application processes at different levels of attainment exhibit common patterns of behaviour and process such that the ICT developed to support practice at one level should be re-useable at another. If this were indeed the case, the complexity and cost of implementing ePortfolios for Lifelong Learning would be significantly reduced and the practicability of achieving interoperability would be increased. Subsequently, a number of the participants, including Rolls Royce and Ufi/learnDirect agreed to work through this problem with the University at their own expense and are now involved in Nottingham's DeL regional pilot project. This will undertake work on some aspects of the propositions, in particular the link between education and employment.

Also arising from this project event, a work-based lifelong learning strand was developed as one of three themes within a workflow diagram which was discussed within JISC and formed the basis for Nottingham's current 10/04 ePortfolio reference model project in relation to the eFramework.

Regional outcomes

14-19 education: A revised version of the City of Nottingham Passport system, called Nottingham Passportfolio, is currently under development. This development bases its database structure around the UKLeaP schemas, which will greatly improve the data importing and exporting processes and maximise the usefulness of application data for both pedagogic and administrative purposes in receiving colleges. The success of this project was a contributory factor in the decision made by the Greater Nottingham Partnership on 14-19 to adopt the Passport uniformly as the basis of a new admissions system for FE (to be introduced in 2006) throughout both the City and County LEA areas. Further work in support of this development is being carried out as part of Nottingham's DeL regional pilot project.

Detailed outcomes by objective

Objective 1. To propose pedagogical principles for an extension of the UCAS application in line with the emerging new flexible framework for HE admissions
Achievements:

- a. The project interacted with the Schwartz consultation process, keeping the committee informed of potential IT solutions, and influenced the final report on HE admissions. It is mentioned directly in paragraph E9.
- b. Proposals for a soft template for developing customised personal statements for HE admissions have been drawn up collaboratively by the Nottingham and Paisley teams, through consultations with a range of stakeholders in both the English and the Scottish systems.
- c. Testing ideas with a small but wide-ranging sample of FE and HE staff and students, the project found broad support for the idea of a customised personal statement. Admissions staff welcomed the prospect of having access to as much information for borderline candidates on-line as would at one time have been secured through interviews.

- d. Outcomes of the pedagogical fieldwork in the contrasting HE environments of Nottingham and Paisley have been captured in two illustrative studies (included in the document set, *Proposal for a soft template for structured personal statements ...*), one focusing on the needs of admissions tutors in a selecting subject, when discriminating between applicants at the top of the scale, and the second addressing issues of application, admission, transition, induction and retention for mature learners moving from FE to HE in Scotland.
- e. Extract from External Evaluator, Marjorie Allen's report (full text in **Appendix 2**)

'In the context of widening participation and establishing a more flexible framework for admissions into HE, the outcomes of this project have much to offer. In the domain of student support, a great many of the materials are original and therefore enrich the pool of resources available to facilitate leaning and progression. It should be realised that the key staff of this project have all moved into a wider arena than was stated in the original contract. Through their professional networks they have promoted ePortfolios in the wider agenda of enhanced student learning.'

Objective 2. To transfer applicant data from FE to HE using UKLeaP

Achievements:

A limited data set was successfully transferred, using UKLeaP, between the City of Nottingham Passport and the University of Nottingham ePARs system in September 2004. It was agreed that a wider set would be transferred upon completion of the new Nottingham Passportfolio system, which would greatly facilitate the mark up of learner data as UKLeaP.

Objective 3. To transfer enhanced applicant data from UCAS into a MLE

Achievements:

UCAS is using UKLeaP and collaborative work throughout the project between Nottingham and UCAS technical staff has led to UKLeaP being incorporated into UCAS's live XML feed in time for the 2007 round of applications.

This project is one of very few in the programme to have carried out pilots of IMS LIP. UCAS making use of UKLeaP means all universities and colleges will develop their capacity to do so. Opening the way to this opportunity is a considerable achievement in itself.

Objective 4. To provide a technical specification for an IMS LIP application profile, for the transfer of enhanced learner information through an admissions process into a MLE in HE, taking specific account of data protection and accessibility issues.

Achievements:

Mapping of UCAS data to UKLeaP has been completed and a UCAS specification has been produced. A joint technical meeting on accessibility was organised in which the expertise of the JISC MLEs project at Loughborough College was shared with teams from UCAS and Nottingham. The project has engaged with the legal study being developed by Andrew Charlesworth and has undertaken to collaborate in a further phase of work. The project has highlighted the importance to the JISC Legal Study of establishing legal metadata, and also the utility of the Building Use Case materials in identifying and working through legal issues.

Conclusions

The project has demonstrated the pedagogic and technical necessity of the service-oriented approach proposed by the eFramework, in particular the need for:

- lightweight profiles of the interfaces of ePortfolio-enabled services, building on monolithic specifications such as IMS LIP and Enterprise, simplifying over-complex structures in order to develop extensions covering unmet needs
- use cases of specific services
- semi-formal scenarios of the coordinated use of several services, expressing examples of intended practice that are capable of being rendered as formal workflows
- scenarios of policy, envisioning future practice and identifying, firstly, the preconditions that have to be met and, secondly, the quantifiable benefits against which the success of the scenario could be evaluated.

On the technical side the project has demonstrated that IMS LIP/UKLeaP works, but that it could be significantly improved. On the pedagogic side, scenarios and use cases of intended practice have identified the discrete services contributing to and drawing upon ePortfolio. This work has indicated the need for the service-oriented approach proposed by the eFramework and provides a high starting point for the development of profiles of:

- (a) the interfaces between services and ePortfolio on the technical side and
- (b) support by these services required by a learner, on the pedagogic side.

The workflows that emerge involve the concurrent linked use of learning and administrative services, for example in the process of selecting and enrolling on a set of modules, which cross the boundaries between IMS LIP and Enterprise and highlight the need for new lightweight profiles crossing the boundaries between existing monolithic specifications.

The UCAS application forms an excellent prototype of a presentational ePortfolio capable of working in relation to a progress ePortfolio. Looking not too far into the future, the principle of allowing individual applicants for work or study to escape from the straightjacket of an official pro forma into the freedom and versatility of web space, could be transferred to the whole concept of the UK eProgress File and its evolution into ePortfolio, striking a new balance between institutionally-provided pro formas and learner-originated presentational applications.

Although patterns of activity at different levels appear broadly similar, services at lower levels of attainment are better expressed in more granular terms, since learners are focussing on particular skills or blocks of knowledge, whereas at higher levels there is a greater emphasis on integrating existing skills and knowledge. Similarly the provision of support to learners needs to be linked to formative stages in learner development, regardless of age. Equally there may well be a permanent need for 'impure' ePortfolio forms, in those situations where institutional provision is required and elements of quality assurance or legal accountability are involved for individual providers.

Implications

Scenarios of practice and scenarios of policy

It seems very likely that the scenarios of practice, produced by this and other MLEs for Lifelong Learning projects, will provide the 'landscape' within which scenarios of policy may be developed, for example by identifying key stake holders and their expectations. Where scenarios of practice *recover* patterns, scenarios of policy *propose* the patterns that should be followed in order to focus practice on the achievement of policy objectives. This approach attracted the interest of Professor David Wood of the University of Nottingham Learning Sciences Research Institute, who has been developing scenarios of future policy as part of European Schoolnet's INSIGHT programme. The scenarios of practice developed by the JISC MLEs programme provide a landscape within which scenarios of future policy could be envisioned. A specific proposal for linking these two approaches to develop a definition of ePortfolio iteratively, within the eFramework, is being developed by the Nottingham team with international partners.

ePortfolio and personalised learning

By January 2005, it had become apparent from the potential workflows how previously 'one-size-fits-all' models, such as the UCAS application, could be tailored to the needs of different types of learner. Having demonstrated the feasibility of standard pathways being customised, the project was producing findings directly congruent with the DfES eLearning strategy's concept of personalised learning. This in turn suggested that personalised learning, which may draw together elements of learning from different courses/pathways and from different institutions, carries a requirement that the integration of those potentially diverse learning elements be supported, too. The work for the eFramework Reference Model for ePortfolio, led by Nottingham, is taking these developments further, beyond the close of the project. The ISLE Project, which covers both lifelong and life-wide learning, will provide continuation for these themes in Scotland and illustrates the extent to which Scottish and English agendas have converged during the project's lifetime.

Implications for further work

The field opened by this project is being developed further by two more projects based at the University of Nottingham:

a) Full regional pilot

The technical collaboration between the Nottingham LEAs and the University of Nottingham, strengthened and extended by this project, is an important testbed resource, which is now being shared with Nottingham Trent University and Ufi/learndirect in further Nottingham-based FE/HE/employment collaborations under the new 7/04 JISC regional DeL pilot project 2005-06, RIPPLL. RIPPLL is picking up and developing this project's implications for transitions and data transfers between study and employment (in both directions) and is widening the range of use case evidence by introducing studies of the needs of learners and institutions in relation to vocational pathways and/or work-based learning.

b) ePortfolio Reference Model project

The implications of the project for the location of ePortfolio in relation to the eFramework are being worked on through the Nottingham JISC ePortfolio initial

Reference Model project, which is also developing an overview of related practice and innovations within DeL regional pilots and also relevant CETLs. An ePortfolio Reference Model for Lifelong Learning, however, requires two further phases of work: the current work on progression/transition, needs to be complemented by work focusing on ePortfolio for personalisation and dialogue (the learner interacting with an institution/employer between transitions), followed by an investigation of ePortfolio for integration and synthesis of multi-locational learning (life-wide or lifelong).

Implications for Scotland

Specifying an ePortfolio has a number of implications for Scottish FEIs and HEIs, including:

1) Scotland already has over 50% participation in Higher Education, much of which is through the advanced entry route from FE (HN level) into HE (Year 2 or 3 of a 4 year degree), and a common qualifications framework (Scottish Qualifications Framework - SCQF). FE and HE Funding Councils have merged to form the Scottish Funding Council, and jointly support a range of cross-sector initiatives. However, there continues to be significant discontinuities for learners through FE and HE, and, in particular, challenges in relation to learner aspirations, motivation, retention and performance (for instance, many direct entry students complete an Ordinary degree but do not go on to complete Honours, even though they have the demonstrable ability to do so). Specifying an ePortfolio, in conceptualising an ePortfolio for transition and progression, rooted in the process of personal development planning, provides a model to the Scottish sector of how to provide a more seamless and supported process.

2) In defining a concept of ePortfolio linked to the processes of personal development planning and application to HE, the Project has placed the concept of ePortfolio at the centre of FE/HE articulation and underlines the critical importance of collaboration between FEIs and HEIs in developing a shared concept of PDP and common standards for the adoption of ePortfolio solutions. This is an important set of messages for Scotland, where currently there are three PDP initiatives - at School level, at FE level (through Scottish Qualifications Authority HN Units), and HE (through QAA Effective Learner Framework), and a growing awareness of and development of ePortfolio solutions (largely confined to individual institutions) - but a need to align these more effectively within the context of lifelong learning.

3) An ePortfolio solution is more than a digital archive or online presentation tool, as work on Specifying an ePortfolio has begun to show. Defined as a collection of services, an ePortfolio is potentially a kind of gateway to support and guide learners through transition, and a tool to empower learners to extend that journey through different stages of learning. Here the SACCA Mapping, Tracking & Bridging Project (which has produced an online resource for institutions and learners which maps HN qualifications against specific degree programmes across the Scottish sector) becomes particularly relevant, especially when linked to an ePortfolio-enhanced approach to supporting learners through transition. Recent work between the Scottish Qualifications Authority and UCAS to directly populate online applications with verified qualifications awarded to a candidate, will further enhance the value of an ePortfolio-driven approach in the perceptions of both learners and institutions.

4) Specifying an ePortfolio has also highlighted the relevance of ePortfolio approaches (with PDP) to a wider concept of lifelong learning (incorporating life-

wide learning) through building employability skills and empowering learners to be more effective in preparing for and presenting themselves for employment. This is particularly relevant to the current QAA Enhancement Theme 'Employability' in Scotland and one of the next key themes for the coming few years 'Effective Learning'.

5) Through the Scottish Funding Council project - ISLE (Individualised Support for Learning through ePortfolios), these agendas will be taken forward through a consortium of 10 FE/HE institutions and more widely disseminated across the Scottish Sector.

6) The emerging Reference Model for ePortfolio - following on from the Specifying an ePortfolio project - also has critical relevance to Scotland, where the region has not chosen to adopt a common ePortfolio tool, but rather has encouraged FEIs and HEIs to adopt approaches and tools relevant to local needs. The ePortfolio Reference Model project is developing links with Scotland to ensure that its work is informed in an ongoing way by the eLearning initiative in Scotland.

7) One critical area where Scottish development is still weak is in supporting ePortfolio development at School level and ensuring that these developments articulate with initiatives in PDP and ePortfolio at FE and HE levels. The scenarios and use case methodology provides a valuable tool to map out and build these relationships across Scotland.

Recommendations

For DfES, Becta, JISC: The findings of this project formed the basis of the advice on ePortfolio that Peter Rees Jones was commissioned to produce for DfES. His advice highlighted the importance of the eFramework for taking this work forward. The advice to DfES has been discussed with Becta and LSC and will be discussed with other bodies including BSI. The project has proposed that the ICT developed for supporting one transition may be adapted for re-use for others, and that the *eFramework* offers a means by which this can be achieved. Recommendations specifically referencing the project and the *ePortfolio Reference Model project*, which continues a number of its themes, included the following:

- It is important that existing definitions of PDP predicated on paper based practice are revised to take account of the wider possibilities that e-portfolio creates, especially for personalisation, in particular to support semi formal and informal discussions, for example in a group project. (Recommendation 4)
- In order to coordinate the further development of e-portfolios across education: -
 - schools and colleges need the resources to develop their use of e-portfolio for PDP and Guidance
 - bodies representing universities, such as Universities UK, need to take full account of the use of e-portfolios for assessment
 - JISC should seek to identify opportunities for developing pilots of the complementary use of assessed e-portfolios supporting and PDP (Recommendation 5)
- The department and Becta should review how JISC's technical work on pathways and e-portfolio for colleges and universities can be re-used to support transitions from primary to secondary school, to college and work based learning and encourage young people to choose the education that suits them best. (Recommendation 6)
- The department and Becta should review the methodology [the eFramework version of the Resource Pack] for the development of an initial reference model of e-portfolio with JISC and contribute to its development for use in a full feasibility study in order to develop a coherent approach to embed e-portfolio for all learners in all education sectors. (Recommendation 7)
- A third stage of work for a feasibility study for completion in 2008 should take account of how learners may integrate what they are learning, especially in employment, including pilots by which the effectiveness of emerging ICT processes may be assessed. (Recommendation 10)

For UCAS and HEIs, in respect of reform of HE admissions policies, the project team highlights the following points:

- The importance of the context provided by international developments in ePortfolio pedagogy and technology for plans for the future of e-admissions for UK HE
- The scope for enabling unprecedented flexibility for HE admissions for learners and admissions staff by harnessing the full resources of ePortfolio technology
- The significant on-going role that both progress ePortfolios and presentational ePortfolios (e.g. an application for admission) will be able to play in HE's retention of learners

For JISC and UCAS, the experience of this project illustrates that UCAS plays a pivotal role in the FE-HE landscape in the UK and could make a key contribution to furthering some key aims for JISC. It also illustrates the scope that exists for significant further work on admissions/applications processes within the eFramework and argues the desirability of achieving a sustainable basis for relatively longer-term collaboration with UCAS, to underpin the joint work required to develop a standard for admissions processes.

For implementers of ePortfolio, the External Evaluator identifies the following issues, based on discussions with FE and HE partners within the project:

- In the light of the emphasis in the DfES eLearning Strategy upon the use of ePortfolios within personal learning spaces and the development of personalised learning, there is still a lack of awareness in the learning community of the value of portfolios and therefore a lack of commitment. The major concern centres around a lack of familiarity with reflection and planning, to match the needs of individual learners to available academic programmes. Lack of time and staff resources to engage in this are always presented as serious obstacles to implementation.
- Students as well as staff require assurance that personal and sometimes sensitive data will be protected from unauthorised exposure in the public domain.
- There may be a tension between evolving a standard design for a portfolio that satisfies the QA needs of FEI/HEI providers in institutionally defined systems and the need for flexibility to cater for a wide range of learner needs and the different educational pathways they will increasingly need to travel.
- The wealth of web-based resources that are available need to be applied and integrated into PDP systems in a wider range of FE and HE institutions in the near future. Perhaps some elements could provide useful tools for institutions which are designing such a system for academic staff.

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Appendices

Appendix 1: Outcome of event with employers

Findings of consultative seminar on potential for convergence between needs in education and in employment

The project held a consultation event for employers and experts in skills development / employability at Nottingham on 8 June 2004, involving representation from public service employers, blue chip companies and SMEs. The event was exploring the question: How far might a single ePortfolio process be achievable to support both education and employment pathways? The event demonstrated differences in objectives between university mentoring/support systems for learners and performance management frameworks in employment. At the same time, it established a significant convergence of interests/agendas between HE and employers:

EDUCATION	EMPLOYMENT
Widening participation	Identification and development of potential
Skills development; employability	Upskilling; recognising soft skills
Developing learner autonomy and self-management of learning	Enhancing employee performance through self-managed development
Lifelong learning	Flexibility
Personal Development Planning (PDP)	Continuing Professional Development (CPD)

Issues discussed included:

The culture shift needed from attainment-focus to development-focus – likely to be even more essential in the wake of Tomlinson.

Analogies between HE and employers' processes/practices for handling applications for further study and for employment. These are limited because of employers' extensive use of interviews and, in some cases, assessment centres. In a mass HE system, the UCAS application has to be a much richer data set than anything used in employment, because it is presented at-a-distance and has to have the potential to stand in place of face-to-face selection processes.

There was general support for the proposals which our project is developing to structure the UCAS personal statement, balanced by concerns that standard frameworks should not stifle creativity and individuality. The key objective therefore must be to support the learner to supplement the standard information requested, in an individual way. In this connection, links to PDRs / use of ePortfolio records offer attractive ways of enabling individuals to think and communicate beyond the formal limits either of structured pro formas or of strictly defined roles in employment.

Employers' needs for enhanced information about the individual graduate at the point of transition from HE to employment were identified. The analogy with the transition from FE to HE is strong and the key role of the HE course entry profile in supporting application for HE highlighted the potential (but currently mostly unrecognised) usefulness to prospective employers of the HE course exit profile (programme specification) at the other end.

Appendix 2: Evaluations

(i) Summary of evaluation questionnaires from project events

I. Expert Seminar, Tuesday 8 June 2004:

Converging Practice in Education and Employment: Is a lifelong e-portfolio, covering diverse patterns of education, training and employment, a practical possibility?

SUMMARY OF EVALUATION QUESTIONNAIRES

30 invited experts attended the above event, from which 7 questionnaires were returned and one further participant submitted written comments by email.

How far did this event engage your interest?

	<u>No of Responses</u>
1 Not at all	0
2	0
3	0
4	2
5 Completely	5

How far did this event make it possible for you to contribute as fully as you wished?

	<u>No of Responses</u>
1 Not at all	0
2	0
3	0
4	4
5 Completely	3

<i>Aspects which worked well:</i> <i>Participants invited to mention up to 3 items</i>	<u>Mentioned by</u>
Workshop Groups: Discussion/debate	8 participants
Mixing with other professional sectors	5 participants
Networking opportunities/unstructured discussion	2 participants
Plenty of time for discussion	1 participant
Specific working examples (Nottingham project)	1 participant
Feedback from other workgroups	1 participant

<i>Ways in which the event could have been improved:</i> <i>Participants invited to mention up to 3 items</i>	<u>Mentioned by</u>
Greater representation from Employers & other sectors	3 participants
More time required to get focussed	2 participants
Advance information	2 participants
More opportunity to develop ideas/bring to conclusion	2 participants
Air Conditioned room	2 participant
Greater interaction between workgroups	1 participant
Contact sheet required	1 participant
Make it a 2 day event	1 participant

Summary

The event was viewed as being useful and informative. The diversity of sectors represented and the opportunity to network with others from different backgrounds was much appreciated, particularly the inclusion of employers. Nevertheless, there was still a desire for a greater presence of employers and other stakeholders, e.g. the voluntary sector. The question was also raised as to whether employers who attended would be kept in touch with developments.

II. Invitation Seminar, Thursday 16 June 2005
ePortfolio into Employment

SUMMARY OF EVALUATION QUESTIONNAIRES

34 invited experts attended the above event, from which 11 questionnaires were returned

How far did this event engage your interest?

Evaluation Range	No of Responses
1 Not at all	0
2	0
3	0
4	3
5 Completely	8

How far did this event make it possible for you to contribute as fully as you wished?

Evaluation Range	No of Responses
1 Not at all	
2	
3	1
4	4
5 Completely	6

<u>Aspects which worked well:</u>	<u>Mentioned by</u>
<i>Participants invited to mention up to 3 items</i>	
Workshop Groups: Discussion/debate	8 participants
Presentations/Overview of current status	5 participants
Networking opportunities	4 participants
Mixing with other professional sectors	2 participants
Balance of presentations v. workshops	2 participants
Location	1 participant
Clarification/appreciation of limits of ePortfolio concept	1 participant
Beginning to appreciate 'service' concept (afternoon workshop)	1 participant
Opportunity to explore Reference Model	1 participant

<u>Ways in which the event could have been improved:</u>	<u>Mentioned by:</u>
<i>Participants invited to mention up to 3 items.</i>	
More time for networking	1 participant
More time for discussion	1 participant
More time allocated overall	1 participant
Better explanation of workshop exercises	1 participant
Advance information/preparation	1 participant
Presentation of employers' perspective	1 participant
Availability of WLAN access	1 participant
eLearning framework and context services too detailed/complex for goal of the day	1 participant

<u>Name</u>	<u>Request to receive further materials available from Nottingham work in Autumn</u>	<u>Request to be involved in further consultation for the Nottingham work</u>
Serge Ravet European Institute for eLearning	Yes	Yes
Mark Stubbs Pathways Reference Model project	Yes	Yes
Sarah Thompson Sungard SCT Ltd	Yes	Yes
Chris Page Broxtowe College of FE	Yes	Yes

Adam Marshall University of Oxford, Computing	Yes	Yes
Pip Gilroy UCAS	Yes	Yes
Ingo Dahn Knowledge Media Institute, Koblenz	Yes	Yes
Paul Rodaway University of Paisley	Yes	Yes
Francis Lowry Nottingham Trent University	Yes	Yes
David Allen Nottingham Trent University	Yes	Yes
Bob Banks Tribal Technology	Yes	Yes

Summary

The day was found to be 'very useful and interesting' and 'very helpful and instructive'. All respondents enjoyed the workshop format for the opportunity it gives for further discussion and networking, but the interspersing and content of the presentations was also appreciated. There were also requests for regular communication to be maintained, in addition to recommendations that developments are set in a European framework.

(ii) Evaluation Report, June 2005, submitted by Marjorie Allen

This evaluation addresses the pedagogical strand of the project to report on the progress of the work in the areas of student experience supporting Personal Development Planning (PDP) and the impact of this on student retention and employability.

1. Methodology

A qualitative approach was undertaken. Through meetings and discussions with the three key project staff and attendance at major invitation seminars at Nottingham in June 2004 and June 2005 and Steering Group meetings, the main developments were noted. In addition, I made two visits to Paisley. The purpose of the first in November '04 was to meet with Paul Rodaway and representatives of FE staff who were collaborating in developing a PDP instrument. On the second visit in May '05 I attended a conference where delegates were drawn from FE and HE institutions across Scotland.

2. The evaluation contract

In the contract for this evaluation the following issues were to be addressed:-

- a. How far does the breaking down of the Personal Statement into categories help learners in applying and tutors in assessing their applications against transparent entry criteria?*
- b. How far does the project raise consciousness among university staff that learner information in the UCAS domain could be used to support ongoing PDP and to aid retention? And what reactions does the project elicit from staff in regard to this?*
- c. How effectively are the pedagogic and technological strands of work articulated?*
- d. How close is the relationship achieved between the project work and local institutional developments? What is the nature of the impact of the project on the participating institutions?*

Each of these four issues will be considered in this report in the context of evaluation of the project.

3. Evaluation of issues

- a. How far does the breaking down of the Personal Statement into categories help learners in applying and tutors in assessing their applications against transparent entry criteria?*

There has been positive support for this proposal from the FE colleges in Nottingham where a group of tutors have been collaborating with Angela Smallwood, the project director. The City LEA had already developed and later refined a tool named "City of Nottingham Passport" and the University of Nottingham had already introduced a web-based New Entrant Profile and worked collaboratively with the City team on these related initiatives. Both FE and HE tutors responded positively to the concept of structuring the personal statement for HE entry, especially for non-traditional applicants, for whom it would provide a useful framework for classifying their achievements and selecting the most relevant areas from their pre-HE PDP records to align with course entry profiles'. Staff agree that this should ensure improved matching of student to course and thereby enhance student retention.

In addition, FE tutors in Paisley appreciated a more standardised system that offered students the opportunity to identify their strengths but at the same time enable them to recognise areas for future support. HE tutors welcomed such information on new students so that suitable arrangements could be in place at point of entry. Figures show that the largest proportion of students drop out in the first few months after entering HE.

b. How far does the project raise consciousness among university staff that learner information in the UCAS domain could be used to support ongoing PDP and to aid retention? And what reactions does the project elicit from staff in regard to this?

Consciousness has been raised with staff I have listened to. However, reactions to this are mixed. Those who have a clear role as a tutor, providing they have dedicated time for such student support, are aware of the potential for PDP and to aid retention. Those without such institutional backup are concerned about lack of resources, in particular, the time they would need to give in order to support their students effectively. Furthermore, it is believed that many would require some staff development training to be skilled in assisting students to reflect upon their experiences, and then classify and document suitable material into their Personal Statement.

Other factors of concern to both staff and students are data protection and how to safeguard sensitive information.

c. How effectively are the pedagogic and technological strands of work articulated?

In the collaborative work between the City of Nottingham Passport, UCAS and the University of Nottingham ePARs system, a high degree of articulation between pedagogic and technological developments has been achieved and is on-going. Generally speaking, however, articulation between these two strands varies across institutions. In some academic disciplines there has been a history of practice of PDP as a professional requirement. In others (institutions and disciplines) there has been no previous experience of recording achievement in a portfolio. In the latter, it is common to introduce a paper document to initially pilot the system.

In Paisley, this was necessary because the University will introduce a new central IT system in autumn 2005. The two strands are unlikely to progress at the same rate. Clearly, introducing an e-portfolio demands a serious institutional commitment to meet the necessary requirements of finances and staffing. However, it was noted that the recent mandate for all academic staff in HE to engage in CPD has raised awareness of the importance of co-ordinating provision of facilities for both staff and students'. In the near future this should lead to a better understanding of the pedagogical processes involved in developing portfolios. There is also an opportunity at Paisley for greater convergence of the two strands.

At the level of infrastructure to promote convergence between the two strands across JISC's MLEs programme as a whole, this project has made a major contribution by developing a resource pack on building scenarios and use cases. Scenarios and use cases function, above all, to factor both pedagogical needs of the full range of potential users and technical possibilities into detailed landscapes which will be used to build specifications for ePortfolio solutions.

d. How close is the relationship achieved between the project work and local institutional developments? What is the nature of the impact of the project on the participating institutions

The three HEIs involved in the project are at different stages in progressing towards the development and application of e-Portfolios. This in itself offers useful models for future implementation beyond these pilot sites.

As the lead institution with several years experience of eprogress file development, Nottingham, together with the FE partners, has many examples of good practice. This covers both PDP implementation and the use of transcripts between education sectors. The necessary factors of institutional commitment, IT expertise, and staff / student collaboration are in place to ensure success. Collectively, they have ensured that there have been very positive outcomes from this project.

Web based resources are available to facilitate development and dissemination at a national level. These include templates for generic scenarios and use cases.

Both the project director and IT staff at Nottingham have engaged in collaborative work with UCAS and further work on pedagogic developments has been carried out between Paisley and UCAS. This has enabled Nottingham and Paisley to collaborate to develop a document advising on a soft template for the UCAS personal statement that would be compatible with the transfer of data from an e-Portfolio.

The University of Leeds has contributed in a different way. At an early stage in the project a decision was taken not to proceed with student PDP development. Instead, Peter Rees Jones made a significant contribution in designing frameworks and examples of scenarios and generic use cases. These have been presented to tutorial and admissions staff in schools, FE and HE at both national and European levels at workshops and on the project website. They provide powerful tools to enable tutors to propose solutions for their own problems relating to recruitment, transition, induction and retention. Support staff in FE have engaged with these to analyse user needs along a variety of support pathways by which students prepare applications for their next transition, which may be an application to another academic programme or into employment. Examples of a range of student learning and access problems have been collected from delegates at workshops during the project. This information of exemplar scenarios has been an effective medium to raise staff awareness of the difficulties encountered by many students who hitherto would not have entered HE. The use cases have been well received and at Paisley they will be used as a framework for the future implementation of PDP.

More recently, Angela Smallwood and Paul Rodaway have developed some case studies which will also be available on the website.

The University of Paisley has been a useful pilot site to collect reactions from staff and students on the value of portfolios (as yet in hard copy). The main area of interest has been to improve student support and the quality of applications in the transition from FE to HE, and to alert HE staff to future learning needs. Through his links with the Scottish Funding Council and the Scottish Qualifications Authority, and input into QAA Scotland (through the Effective Learning Framework Working Group, and QAA Enhancement Theme Steering Groups for Flexible Delivery and for Employability), Paul Rodaway has enabled dissemination to go beyond his own institution and has enhanced the status of e-Portfolios on the teaching and learning agenda in Scotland.

4. Summary

In the context of widening participation and establishing a more flexible framework for admissions into HE, the outcomes of this project have much to offer. In the domain of student support, a great deal of the materials are original and therefore enrich the pool of resources available to facilitate learning and progression. It should be realised that the key staff of this project have all moved into a wider arena than was stated in the original contract. Through their professional networks they have promoted e-Portfolios in the wider agenda of enhanced student learning.

However, a number of issues relating to future implementation of e-Portfolios are listed below: -

- 'In the light of the emphasis in the DfES eLearning Strategy upon the use of eportfolios within personal learning spaces and the development of personalised learning', there is still a lack of awareness in the learning community of the value of portfolios and therefore a lack of commitment. The major concern centres around a lack of familiarity with reflection and planning to match the needs of individual learners to available academic programmes. Lack of time and staff resources to engage in this are always presented as serious obstacles to implementation.
- Students as well as staff require assurance that personal and sometimes sensitive data will be protected from unauthorised exposure in the public domain.
- There may be a tension between evolving a standard design for a portfolio that satisfies the QA needs of FEI/HEI providers in institutionally defined systems and the need for flexibility to cater for a wide range of learner needs and the different educational pathways they will increasingly need to travel.
- The wealth of web based resources that are available need to be applied and integrated into PDP systems in a wider range of FE and HE institutions in the near future. Perhaps some elements could provide useful tools for institutions which are designing such a system for academic staff.

(iii) Informal interim technical evaluation comments from David Dana, November 2004

Overall I felt the work done to date on developing models for a PDP and data transfer have been well thought through and support the project aims well.

Two main issues:

1 UCAS technical people see their role as continuing to process applications in a similar way to existing systems although with more emphasis on electronic data collection and transfer (only dealing with data that is a part of their current core business). They would only be dealing with a data subset of the full PDP record. At present this puts significant constraints on possible models for data transfer of the full PDP and could require the learner record to be split and sent via two pathways (via UCAS and direct to the institution requiring the data). There is then greater complexity of the operation, greater potential for data loss and a requirement for greater reliability of information systems in schools and colleges. If this is to be the case then will HEIs will have to contact schools, colleges and others directly to collect or be sent part of the PDP data? This may be the case in any event if individual courses or institutions require additional information from applicants as a part of selection.

2 If the point above continues to exist it will be essential to have a unique learner identifier for general use - say year 10 or 11 to allow the full learner record to be tracked and reformed at receiving HEIs? It will also prevent more than one e-portfolio being created for an individual although documents generated from it may vary in content.

Data storage may be an issue depending on the model chosen, time required to keep records and there could be problems with different versions of PDP in different locations. Clear guidelines would need to be produced and linked to data protection considerations.

There remain issues of the definition of data elements and decisions on data format. These can readily be resolved given the will. Consensus is already developing.

Appendix 3: Diagrams

Diagram 1: Scenario A – the starting point for the project

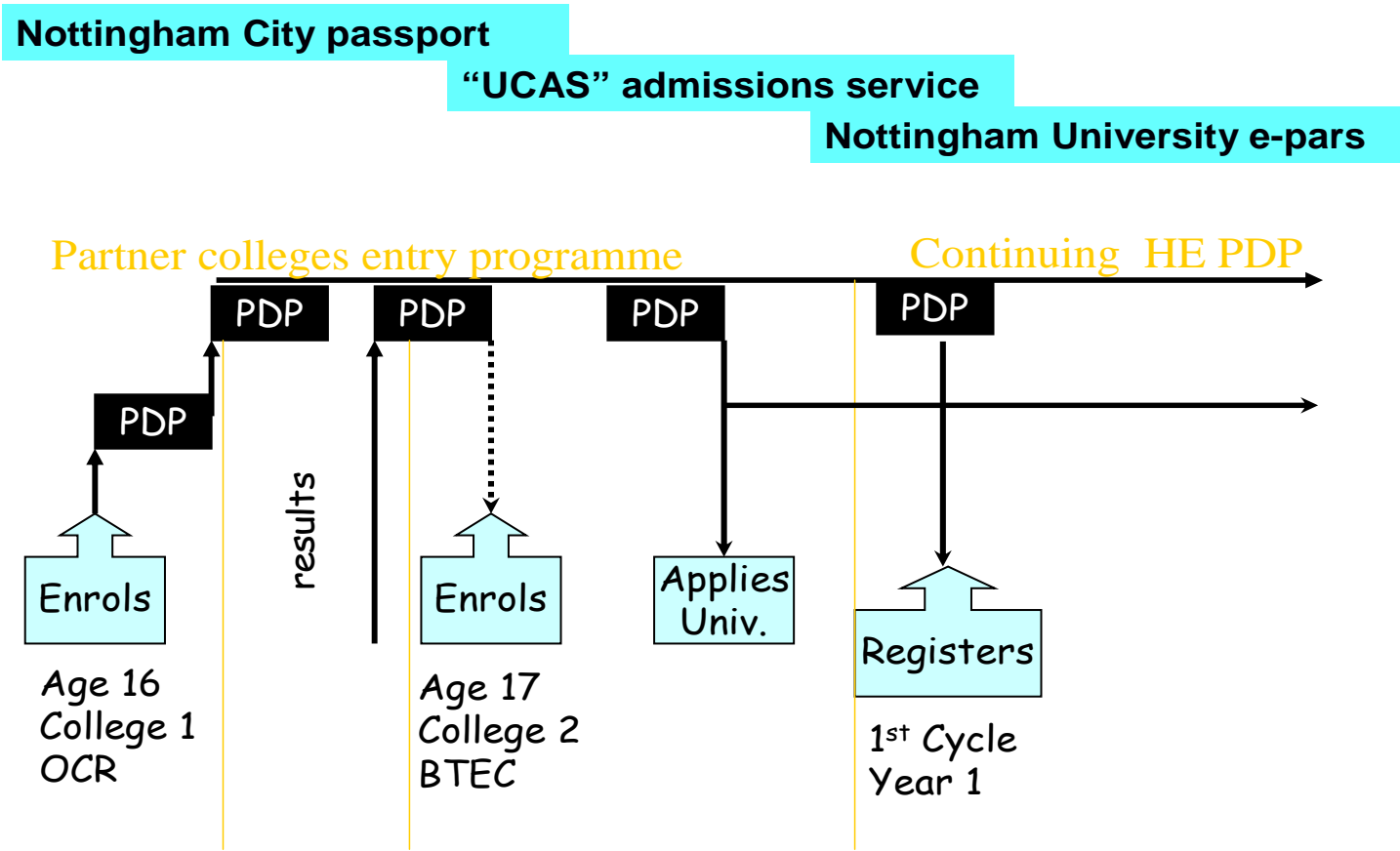


Diagram 2: Project scenarios and use cases mapped on to Diagram 1

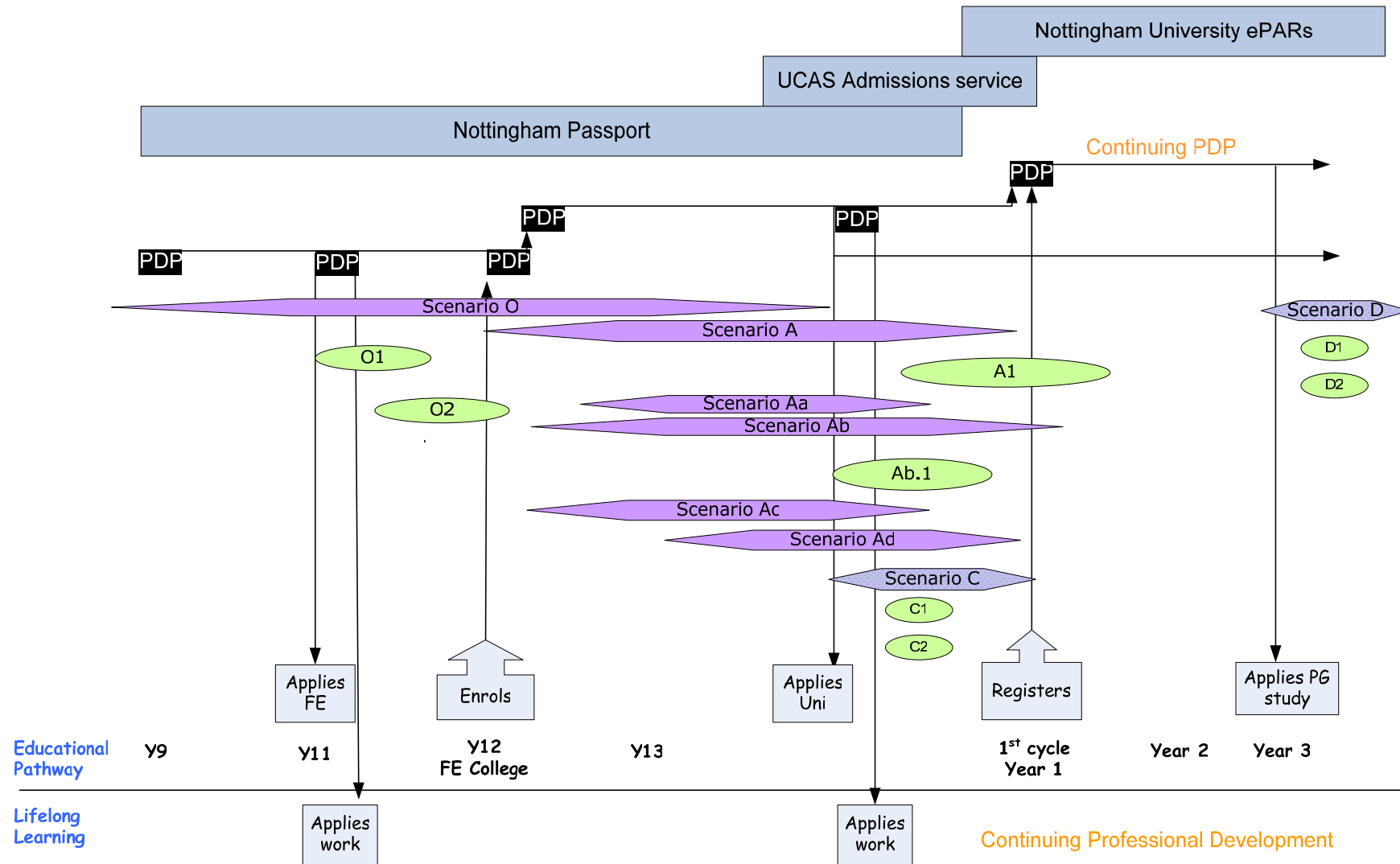
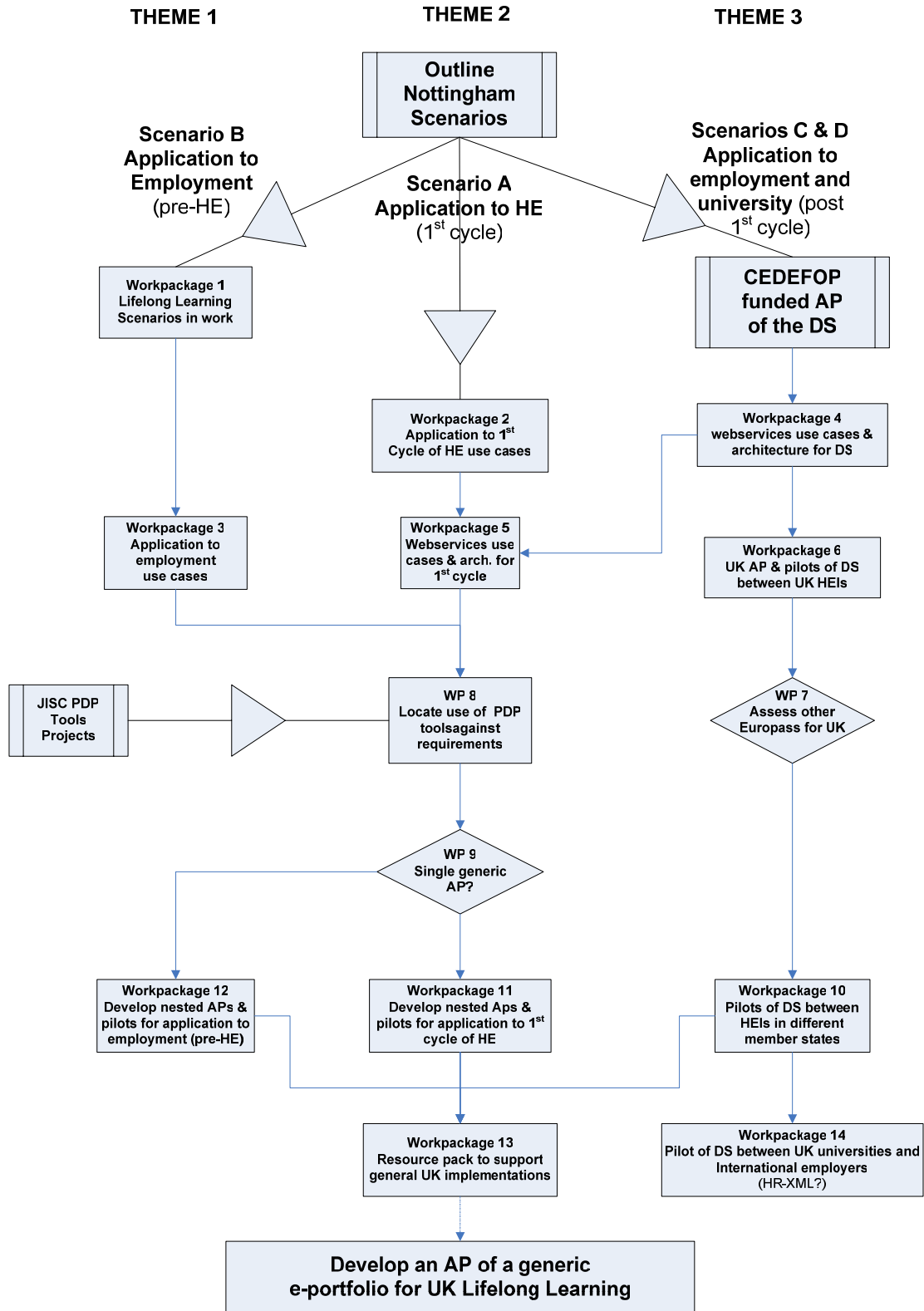


Diagram 3: A development from the project - Proposed work flow for a project to develop an application profile of a generic ePortfolio for Lifelong Learning



Appendix 4: Complete list of presentations

Local audiences

- Nov 2003 Launch of Paisley strand of project, including
Angela Smallwood presentation: 'Project Overview'
- This launch event positioned the Project within the strategic context of key developments in Scotland (including presentations on the SACCA/QAA Mapping, Tracking, Bridging Project) and developments within the University of Paisley (including the Student Information Systems Project). The event included presentations from each member of the Project team, and from MTB Project and SIS Projects.
- Sept 04 Paisley Learning & Teaching conference, University Campus, Ayr
Paul Rodaway presentation: 'Specifying an ePortfolio and PDPs in the context of lifelong learning'
- At the Annual Learning & Teaching Conference held by the University, which staff from FE and HE in the west of Scotland attend, Dr Paul Rodaway made a presentation reporting on progress on the JISC Project and setting it within the context of PDP developments in Scotland and at the University of Paisley
- Nov 04 Executive project briefing, Steering Committee, University of Nottingham
Team presentation: 'Nottingham JISC Project: Specifying an ePortfolio – Enhanced learner information for admissions and transitions into higher education'
- Jan 05 Admissions forum, Paisley
Paul Rodaway presentation: 'Specifying an ePortfolio – Enhanced learner information for admissions and transitions into higher education'
- The Admissions Forum attracted participants from a significant number of FE Colleges across Scotland and HE tutors (mostly from the University of Paisley), including student support and careers staff as well as admissions tutors. The event explored and further developed a set of three Scenario/Use Cases of FE/HE transition using an ePortfolio model. In parallel, a series of focus groups were also held with FE and HE students to enhance understanding of the learner perspective on admissions, PDP and the potential of an ePortfolio approach.

National (UK) audiences

- March 2004 Two workshops at CRAC conference, Exeter
Angela Smallwood and Phil Harley joint presentation: 'HE Admissions and Progress Files across FE and HE'
- April 04 UCAS Admissions Officers' Conference, Reading
Angela Smallwood workshop presentation: 'Applicant data, PDPs and Interoperability'
- May 04 All Wales PDP conference, Glamorgan
Angela Smallwood presentation: 'Widening Participation, Progress Files and ePortfolios'

- June 04 Invitation seminar, Nottingham: *Converging Practice in Education and Employment*
Angela Smallwood presentation: 'Admitting students and recruiting employees – Analogous uses of ePortfolios?'
Peter Rees Jones: 'What's the use of an ePortfolio? Defining the demand'
Paul Rodaway: 'Removing Barriers, Empowering Learners'
Phil Harley: 'Converging Practice in Education and Employment'
- Oct 04 Presentation to UCISA
Peter Rees Jones presentation: 'Establishing Lifelong Learning: UCAS & the electronic-Diploma Supplement (e-DS)'
- March 05 Action on Access Conference workshop, Derby
Angela Smallwood presentation: 'Electronic PDP programmes in HE: An Introduction for FE'
- April 05 Presentation on Nottingham Passport
Lucy Peck: 'Managing Achievement [in 14-19 education] through an ePortfolio'
- April 05 UCAS Admissions Officers' Conference, Keele
Angela Smallwood workshop presentation: 'Win-win? Deliver Schwartz – support wider access – enhance efficiency'
- May 05 Scottish project conference, Paisley
Angela Smallwood presentation: 'Project in Context'
Peter Rees Jones: 'Definition and Potential of a ePortfolio'
Paul Rodaway: 'Developing an Concept of ePortfolio: the local project' and 'Individual Support for Learning through ePortfolio (ISLE)'
Alyson Barrie: 'From Complexity to Clarity: an FE Perspective'
- This event had two components – reporting on the outcomes of the project and placing it within the context of Scottish developments in eLearning/ePortfolio, PDP in FE and HE, and admissions/widening access. The afternoon focussed on further consultation on the mapping of scenarios and use cases. The event had representatives from a wide range of FE and HE institutions across Scotland, and sector organisations such as the Scottish Qualifications Authority, Scottish Further Education Unit, the HE Effective Learning Framework Working Group etc.
- May 05 JISC MLEs Dissemination Conference convened by CRA LLSP, Sheffield Hallam University
Angela Smallwood workshop presentation: 'FE -> HE: joining up phases of PDP via admissions processes'
Anne Strachan and Alyson Barrie workshop presentation on the Paisley scenarios and use case work.
- July 05 JISC MLEs Programme Meeting, Cambridge
Angela Smallwood workshop presentation: 'FE -> HE: joining up phases of PDP via admissions processes'

International audiences

- March 2004 EIfEL/Cass Business School ePortfolio event, London

- Peter Rees Jones presentation: 'Developing an ePortfolio to support transitions between episodes of learning'
- Oct 04 The European Diploma Supplement Technology, Exchange and Validation Workshop, Koblenz
Peter Rees Jones presentations: 'Setting a Common European e-DS' and 'Application to 2nd Cycle: Pre-conditions'
- Oct 04 Plenary and workshop presentations at EIfEL conference, La Rochelle
Peter Rees Jones plenary presentation: 'Defining ePortfolio in Europe'
Angela Smallwood, David Ford, Phil Harley workshop: 'Integrating an ePortfolio within a University and the Wider Community'
- Nov 04 Eminent invitation conference for European Ministries of Education, Prague
Peter Rees Jones presentation: 'ePortfolios: A Tool to Support the Development of Learners'
- Dec 04 EDUCA, Berlin
Peter Rees Jones presentation: 'Implementing ePortfolios for Lifelong Learning in Europe'
- June 05 International invitation seminar, Nottingham, 'ePortfolio into Employment'
Angela Smallwood and Peter Rees Jones joint plenary presentation: 'The developing UK agenda – Progress and Potential'
Paul Rodaway presentation: 'ePortfolios in Scotland – A Developing Agenda'
Peter Rees Jones presentation: 'Defining a Reference Model of ePortfolio'

Appendix 5: Abstract use case illustrating the use of a sequence of ePortfolio-enabled services in a workflow to develop an Individual Learning Plan

a. Introduction

This use case illustrates the approach that is proposed:

- i. to identify *domain services*, that is to say the actual and intended practice involving ePortfolio, within which *services*, that is to say ICT services supporting practice linked to ePortfolio, have been developed, are being planned, or should be developed.
- ii. to make recommendations for the coordinated development of *ICT services* to meet priorities and cover gaps. It is expected that in future most *ICT services* will be rendered as webservices.

It is intended that this work should form the basis of technical work: -

- iii. to scope the types of information required to support the *domain services* and the *ICT services* supporting practice in terms of existing specifications, standards and required extensions, in order to produce formal interfaces between an *ICT service* and ePortfolio.

What emerges strongly from the diagram is the importance of workflow, both for the sequencing of activities for the negotiation of a formal plan and within the plan itself, where the plan is an active resource that prompts the actors where actions are required.

b. Use Case: - orchestrated services producing a learning plan

This abstract use case is drawn from a variety of ILP (Individual Learning Plan) practice for young people who are 15 years old in Year 11 of the English school system. It is intended to illustrate a chain of services producing a formal plan. The same chain may have other results. The abstract use case may form a basis for practitioners to propose concrete examples of practice which, it is expected, will identify variations of services and additional services producing learning plans. This should yield a richer and more complex picture of this domain of practice.

The types of information passing into and from the ePortfolio can be scoped from this more complex picture. The interfaces required to support the domain planning service may then be specified. This will involve some existing ICT services which will be listed and categorised. This will in turn suggest other areas in which ICT services should be developed. A report can then be made: -

- Outlining the interfaces between ePortfolio and domain services;
- Identifying the actual or specified ICT services and their nature (e.g. if they are webservices; whether/how they conform to specifications or standards)
- Identifying the gaps in provision for which ePortfolio webservices should be developed
- Identifying common sequence patterns, including common loops initiated in given circumstances.

c. Negotiating a Formal Learning Plan: - outline

- Human Actors: - a learner and a teacher
- An ePortfolio provided by an institution in which: -
 - Some information provided by the institution is known to both the learner and the teacher;

- Information provided to or developed in the ePortfolio by the learner is owned by the learner and cannot be viewed by any other actor without the learner's permission;
- The learner may make informal use of ePortfolio in conjunction with other generic services such as blogs, moblogs and MSN. This is acknowledged in the narrative of the use case (d) but not in the diagram (f.).
- Trigger: - assessment results
- Inputs: -
 - Assessment results
 - Pathway information (e.g. entry requirements for a module or course)
 - Historical information held in the ePortfolio
- ePortfolio enabled services: -
 - Assessment
 - Personal Development
 - Guidance
 - Pathway (a service that is indirectly linked to ePortfolio)
- Outputs held in the ePortfolio: -
 - Learner reflection
 - Learner-teacher dialogue
 - Learning Plan

d. Workflow

(Told from the learner's perspective)

- i. I have submitted a piece of work for formative assessment. A teacher sends comments on my work and a grade to my ePortfolio. (Information provided by an Assessment Service)
- ii. I review the grade and comments against the requirements of one of the A levels I wish to take next year (information provided by a Pathway service) against previous comments and grades (held in my ePortfolio) and my longer term goals (held in my ePortfolio). There is a problem. (This whole process is supported by a Personal Development service)
- iii. I chat with my friends about my problem using MSN (this is currently out of scope for the *eFramework* not connected to the ePortfolio and not acknowledged in the diagram at f. below)
- iv. I prepare to meet my form teacher. I email her with the problem. I do not wish to change my goals. I identify some ways I think I could resolve the problem. I give her access to several parts of my ePortfolio which I think are relevant. (preparation for Guidance)
- v. I meet with my form teacher face to face but we work through the problem using her PC and set out the actions each of us will undertake to resolve the problem (Guidance) (At this point there could be iteration between stages ii. and iv. leading to a further guidance meeting not shown on the diagram at f.)
- vi. We review the pathway information (Pathway) and the options for how I could qualify myself for various pathways. My teacher identifies several options which we discuss and I select a preferred and a backup option. (Planning)

- vii. I suggest ways in which one option could be adapted to meet my specific needs. My teacher shows me how to customise a pathway to meet my needs on the computer so that I can do this in future for myself. (Planning)
- viii. We agree a plan a date for a further review and the circumstances in which we should meet earlier. (Planning)
- ix. My teacher and I agree a record of our spoken conversation (dialogue)
- x. I activate my individual learning plan.

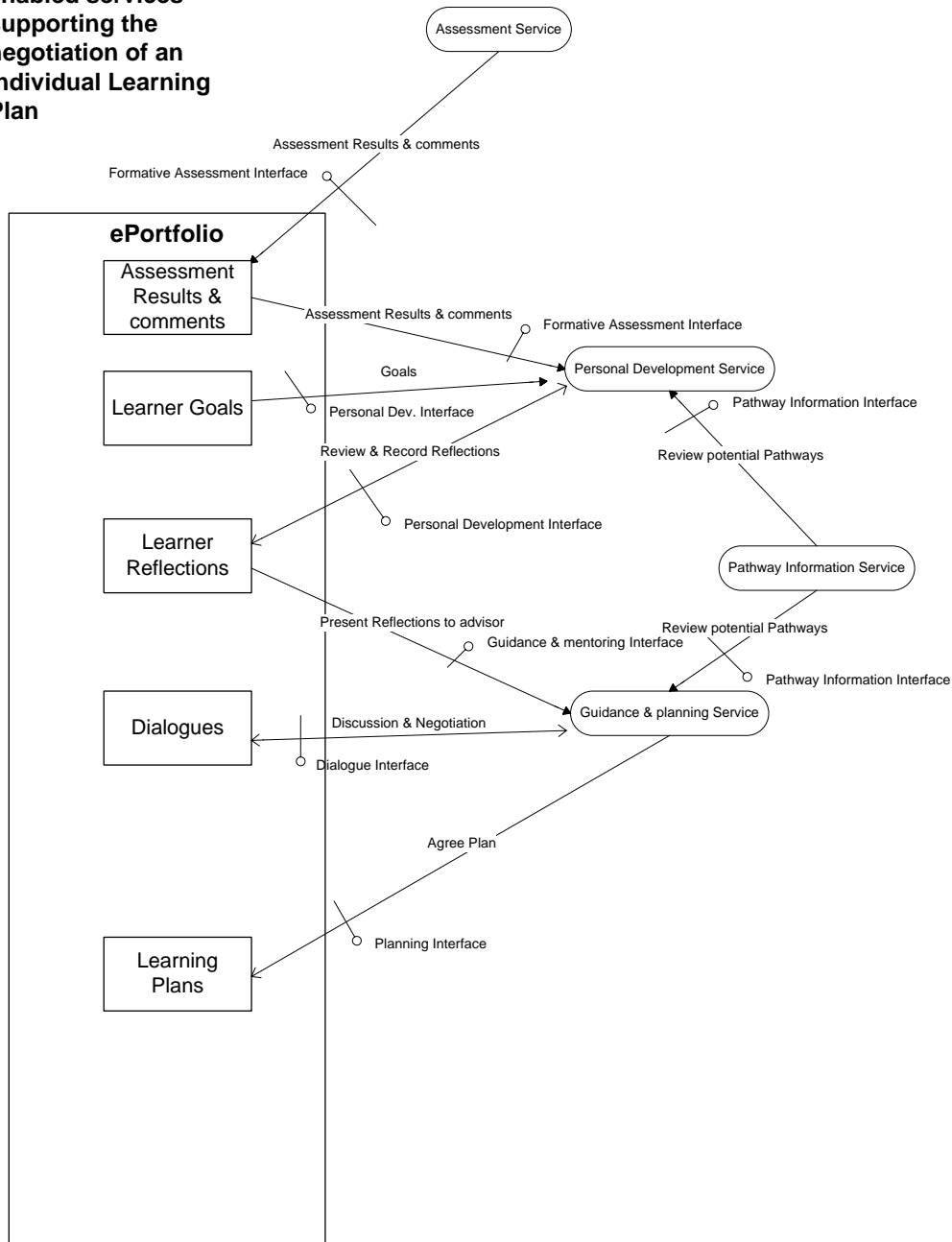
e. Learning Plan as an active resource

The abstract use case could deliver a plan that simply provides a checklist of what the actors will do next. However the plan itself could be an *active* resource alerting the actors in certain circumstances and offering advice. How would an *active* Learning Plan affect the use case?

- **Pre-conditions**
 - There is a Pattern Book which any of the actors can use to find a particular type of plan for a particular type of learner, job, learning problem or goal
 - There is an agent which can help any actor to navigate the Pattern Book, customise the learning and the learning flow
 - Each actor can specify conditions when the plan will alert them, for example in response to poor diagnostic assessment results or attendance
 - The plan is therefore a learning flow and an active resource
- The teacher identifies the gaps required to bring the learner up to the minimum standard;
- The learner identifies the gaps required for his / her long term ambitions;
- The human actors assisted by a planning agent negotiate a customised learning flow;
- The plan is executed
- The plan can be set to issue alerts to specific actors in specified circumstances
- The plan will propose workflow loops from the pattern book
- The plan will propose other resources which actors may find helpful (for example a means of addressing a problem within a particular domain of competency).

f. Diagram

A chain of ePortfolio enabled services supporting the negotiation of an Individual Learning Plan



g. Discussion and applicability to other domains

How practicable is an active learning plan? At lower levels of attainment there have been extensive moderated ICT projects yielding hard research evidence of effective remedial approaches for literacy and numeracy. Effectively pattern books exist, offering approaches that have been proven to work for particular types of learner with particular types of problem. Learners' individual learning plans set out the progress they can realistically be expected to make and the distance travelled

The work undertaken with learners in the top decile, and at higher levels of attainment, has been much more limited. This includes unpublished work on PDP related approaches, such as the use of learning diaries which identified no measurable effect.

These approaches are intended to measure the improvement in a learner's performance. There are simpler problems that could be more readily assessed. For example a significant proportion of Year 11 English learners do not progress to work, training or formal education, or drop out soon after making the transition. Here it would be practicable to evaluate the effect of ePortfolio-enabled guidance services on retention in education or training and to review the relative effectiveness of different types of Learning Plans for different types of learner.

As with literacy at lower levels of attainment, the use of ICT provides an audit trail of evidence for evaluation. In the same way, effective practice could be identified and ineffective practice amended or discontinued.

These same techniques could be applied to transitions from college to university or work and could be applied to other services and chains of services.

Appendix 6: Glossary of Acronyms

ACCLIP	Accessibility for Learner Information Package
BSI	British Standards Institution
C&IT	Communications and information technology
CD	Compact Disc
CEN/ISSS	European Committee for Standardisation
CETIS	Centre for Educational Technology Interoperability Standards
CRAC	Careers Research and Advisory Centre
CWA	CEN Workshop Agreement
DfES	Department for Education and Skills
eFramework	a joint initiative of JISC, DEST (the Department of Education Science and Technology in Australia)
ELF	Effective Learning Framework (Scotland)
ePARs:	electronic Personal and Academic Record system (University of Nottingham)
FDTL	HEFCE Fund for the Development of Teaching and Learning
FE	Further Education
FEC/I	Further Education College/Institution
GOALS	Greater Opportunities for Access to Learning for Schools
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
HEQE:	Higher Education Quality & Employability Division
HND	Higher National Diploma
IEC	International Electrotechnical Commission
INSIGHT	publication of European SchoolNet
ISO	International Organisation for Standardisation
ISSS	Information Society Standardisation System
IST	BSI technical committee responsible for information and communication technology for learning, education and training
IT	Information Technology
JISC	Joint Information Systems Committee
KS4	Key Stage 4
LEA	Local Education Authority
LIFE	Learning Interoperability Framework for Europe

LIP	Learner Information Packaging
LIPSIG	Learner Information Packaging Special Interest Group
LLSP	JISC Lifelong Learning Support Project led by the Centre for Recording Achievement
LTSN	Learning and Teaching Subject Network, now part of the HE Academy
LUSID	Liverpool University Student Interactive Database
MLE	Managed Learning Environment
NIIMLE	Northern Ireland Integrated Managed Learning Environment
PADSHE	Personal and Academic Development for Students in Higher Education
PDP	Personal Development Planning
PDR	Personal Development Record
QA	Quality Assurance
SACCA	Scottish Advisory Committee on Credit and Access
SCQF	Scottish Credit and Qualifications Framework
SFC	Scottish Funding Council
SHEFC	Scottish Higher Education Funding Council
SQA	Scottish Qualifications Authority
SWAP	Scottish Wider Access Programme
TELCERT	Technology Enhanced Learning Certification
UCAS	Universities and Colleges Admissions Service
UKLeaP	United Kingdom Lifelong Learning Profile
UML	Unified Modelling Language
VLE	Virtual Learning Environment
WP	Widening Participation
WS-LT	Learning Technologies Workshop
XML	Extensible Markup Language