

## **Supporting e-portfolio development in the UK**

### **An interim scoping report with recommendations to the JLT Committee meeting, May 2005**

#### **Summary statement:**

Given the short timeframe available for the construction of this report, it perhaps more accurately described as an orienting report rather than a scoping one. Many Projects in this area have only recently commenced, while a range of older Projects have still to provide final reports, so it is too early to pull together the emerging picture. Our final document will seek to be more inclusive and comprehensive in terms of the practice to which we seek to pay attention, and the lessons that might be learned for the future. It may also result in modification to our initial broad recommendations presented below and in more detail in Section E.

Our initial recommendations are as follows:

1. A coherent development agenda is needed which pays attention to the range of purposes for which e-portfolios can be used.
2. This development agenda needs to be integrated across sectors and organisations
3. The current short life cycle Project model might profitably be re-appraised in terms of costs and benefits.
4. In the context of a wide array of often short life funded Projects, albeit with connectivity between some over time, there is a strong need for the development of a 'long-thin' Project that will last for a minimum of three years and that will act as a point of contact and source of information and guidance for work on e-portfolio implementation.
5. The focus upon support for institutionally led projects should be complemented by support to networks of leading-edge organisations in the development of properly relational information models which are 'fit for purpose' as defined by practitioners.
6. There is a clear need to 'field test' the implementation of policy.
7. Organisational processes and resources have to be considered when developing the data model for e-portfolios.
8. There should be a concerted effort to engage employers and organisations concerned with continuing learning and professional development in development work and to gain a better knowledge/understanding of existing e-portfolio software and practice in this sector.
9. To support practical implementation, the emphasis upon 'open source' needs to be complemented by stronger levels of engagement with commercial Virtual Learning Environments providers.

10. E-portfolio developments should not lose sight of their potential to foster creativity and innovation in pedagogic practice.

**On the basis of these interim recommendations, and the wide range of practice already under way, we recommend that JISC and the JLT focus – in the short term - upon refining understanding of/learning from current activities, the consolidation of existing work, both technical and pedagogic, and building a clear ‘roadmap’ for future work.<sup>1</sup> Specifically, the following practical actions are recommended for consideration.**

**To:**

- A. Fund a more comprehensive review of existing e-portfolio systems to categorise them by type and function. This review should take into account of outcomes from the etools projects that are shortly to report. It will enable the identification of further development needs, for example in relation to e-portfolio functionality given the discontinuities in respect of practice raised in D below (Recommendation 1, 3 and 9).**
- B. Facilitate the connectivity between HE centred practice and other developments. Supporting reviews should be undertaken with:**
  - employers (Recommendation 8);
  - HE work in FE contexts, particularly within Foundation degree programmes (recommendations 1, 2 and 6).
- C. Consider a further phase of activity in respect of the e-portfolio reference model work which would explicitly embrace practice in schools as well as with employers (Recommendation 2 and 8).**
- D. Commission a ‘long-thin’ Project that will act as a point of contact and source of information and guidance for work on e-portfolio implementation (Recommendation 4).**
- E. Pay fuller attention in newly commissioned work to issues of accessibility, in two senses:**
  - in relation to *‘coherent access to e-portfolio information, where that information may be located in several data stores ... to enable the operation of personal learning environments’*
  - in relation to learner needs and preferences (see D4 c/d below).

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<sup>1</sup> Given the immediate focus of these recommendations, some elements from within section E inevitably assume greater prominence than others.

## A. The Context.<sup>2</sup>

In the UK, the use of portfolios for the collection and management of assessment evidence has been a feature of vocational and professional programmes for a number of years. In addition, other forms of practice have been employed to support individual development and progression. These include DfES Progress Files (particularly 14-19), Individual Learning Plans (in FE and Adult/Lifelong Learning, with some limited developments amongst 14-19 Pathfinder projects). The Department for Education and Skills (DfES) e-Strategy<sup>3</sup> and Skills Strategy<sup>4</sup> foresee the possibility of a personal electronic portfolio (e-portfolio) that would collate evidence of an individual's achievements over a lifetime of learning and employment whilst allowing for continued planning and reflection.<sup>56</sup> The e-Strategy in particular emphasises that:

*'We will encourage every institution to offer a personal online learning space to store coursework, course resources, results and achievements. We will work towards developing a personal identifier for each learner, so that organizations can support an individual's progression more effectively. Together, these facilities will become an electronic portfolio, making it simpler for learners to build their record of achievement throughout their lifelong learning.'* (DfES, 2005, para10, page 5).

Within Scotland parallel developments are in train. For example, 'Assessment is for Learning' funding has been directed to every local authority in Scotland to focus on three main strands including formative assessment and personal learning planning. Progress Files are available in an editable web enabled version at <http://www.ltscotland.org.uk/assess/progfile.asp> and the Scottish Qualifications Authority (SQA) has developed a module on personal development planning which was launched in June 2004. In Wales the launch of Careers Wales online (at <http://www.careerswales.com/>) seeks to provide, for every citizen, 'careers related information and advice, including an e-portfolio, CVs, quizzes, vacancies, weblinks, courses and much more.'

Within Higher Education developments have been stimulated, though often not initiated<sup>7</sup>, by the recommendation of the National Committee of Inquiry (1997) that HEIs should introduce 'an HE Progress File'. Practice has been developed at institutional levels and

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<sup>2</sup> This report notes, but explicitly does not seek to replicate Beethams study for the JISC, 'e-portfolios in post 16 learning in the UK: developments, issues and opportunities', March 2005.

<sup>3</sup> See [www.dfes.gov.uk/publications/e-strategy](http://www.dfes.gov.uk/publications/e-strategy). (Accessed 20/03/05).

<sup>4</sup> The skills strategy highlights the need for an adult credit framework – an important pre-requisite for a credible national record of achievement – and promises to invest in e-learning and e-assessment to help meet government targets on skills development: see [http://www.dfes.gov.uk/skillsstrategy/pdfs/whitePaper\\_PDFID2.pdf](http://www.dfes.gov.uk/skillsstrategy/pdfs/whitePaper_PDFID2.pdf) (accessed 19/03/05) for a summary.

<sup>5</sup> For a regional perspective on the potential of older workers to be supported by eportfolios see [http://www.swslim.org.uk/documents/themes/lt9\\_rb3.pdf](http://www.swslim.org.uk/documents/themes/lt9_rb3.pdf)

<sup>6</sup> We note here the intention expressed within the e-strategy document to undertake a feasibility study on 'how to provide integrated e-portfolios by 2007' (page 27), though the relationship of the JISC to this work is unclear.

<sup>7</sup> Given that much PDP practice, including some delivered electronically, pre-dates Dearing (see e.g. Jackson and Ward (eds), 'Personal Development Planning; Institutional Case Studies.' LTSN Generic Centre, York 2001).

by subject or discipline communities<sup>8</sup>, and there appears an increasing though by no means universal move towards 'e' implementation, a development reflecting the increasing availability of IT-based learning environments, the increasing readiness of many students and an increasing number of staff to engage with the technology, and the remorseless pressure on staff resources.

In turn, this has been reinforced by a range of recent developments. The Report of the Scoping Group on 'Measuring and Recording Student Achievement in HE' ('the Burgess Report', 2004<sup>9</sup>) was concerned with both learner and institutionally managed information in respect of student learning and achievement, and emphasised '*the recognition that students themselves are crucial translators and conveyors of information about (their) learning and achievement*'.<sup>10</sup> It envisaged the possibility of a personal electronic portfolio (e-portfolio) by all HE students in the medium term. Selected evidence from such an e-portfolio could be presented for a range of purposes and in a range of different formats. In similar vein, the recently published e-learning strategy produced by the Higher Education Funding Council for England (HEFCE, 2005<sup>11</sup>) emphasises the encouragement of '*e-based systems of describing learning achievement and personal development planning (PDP)*' within its Joint Implementation Plan<sup>12</sup>. Additionally a central component of the major collaboration announced by JISC and Becta in December 2004 was work on e-portfolio, this being specifically linked to learner support, the personalisation of learning and the lifelong learning agenda.

## **B. Towards defining e-portfolio for the UK.**

1. For the purposes of this paper an "e-portfolio system" is defined as an ICT system that:
  - a. holds certain information;
  - b. can be used to perform a number of functions.
2. There is much opportunity for ambiguity between the e-portfolio as the ICT system and the e-portfolio as the container for archiving and retrieving information about the owner, her/his actions, experiences and achievements, for different purposes and audiences (such as an assessment portfolio or a CV). As a means of resolving this ambiguity, it may be helpful to see e-portfolio as comprising four complementary and interconnected components:
  - a. the form of the e-portfolio system (what it looks and feels like);
  - b. the functionality the e-portfolio system provides; (what it can do);
  - c. the information that is presented through the use of the functionality (what information it contains and why);
  - d. the use of the e-portfolio systems, expressed as scenarios or use cases;<sup>13</sup> (how

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<sup>8</sup> In the case of the latter, work has often sought explicitly to draw on, and link to, the recording of professional competencies that would be built upon in later developmental activities. Teaching and medicine amongst others provide illustrations of these.

<sup>9</sup> Available at: <http://bookshop.universitiesuk.ac.uk/downloads/measuringachievement.pdf>

<sup>10</sup> Burgess, B, '*Progress Files beyond 2005*.' PDP-UK Newsletter Issue 1 (2004) Available at: [http://www.recordingachievement.org/downloads/CH\\_NEWSLETTER.pdf](http://www.recordingachievement.org/downloads/CH_NEWSLETTER.pdf) (accessed 19/04/05)

<sup>11</sup> See [http://www.hefce.ac.uk/pubs/hefce/2005/05\\_12/05\\_12.doc](http://www.hefce.ac.uk/pubs/hefce/2005/05_12/05_12.doc)

<sup>12</sup> See particularly strand 3, Student support, progression and collaboration.

<sup>13</sup> Within the work of the Lifelong Learning Support Project funded by JISC to provide support for the MLEs4LLL programme, these were defined in the following terms:  
"A scenario describes the typical uses of a system as a narrative or story."

- and when it is used in different contexts for different purposes).
3. In the context of educational use the relationship between functionality, pedagogy – teaching and learning processes - and disciplinary/course contexts, cannot be divorced from form, content and use. Any e-portfolio sits within a system involving users, promoters, enablers or facilitators; purposes for knowledge capture, retention and recovery; and environments and contexts for use which may include users of the information it contains.
  4. Earlier UK thinking<sup>14</sup> used the term e-portfolio to describe the presentational aspect and ‘Learner Profile’ to describe the archive on which the presentational portfolio was built. Here a developed, more inclusive position is taken, with the recommendation that attention can more profitably be given to considering an e-portfolio as a repository of learner information from which subsets of information can be selected for four ‘supersets’ of e-portfolio usage<sup>15</sup>. These are concerned respectively with:
    - a. formal summative assessment<sup>16</sup>;
    - b. presentation/showcasing for progression;
    - c. supporting formal learning, including ‘learning to learn’ and
    - d. supporting overall development, (encompassing personal and career areas as well as educational ones, and learning/experience derived from less formal contexts)<sup>17,18</sup>.

These are most appropriately thought about as types of usage or types of scenario of use, with a fully-fledged e-portfolio system ideally covering many or all of the different uses. This categorisation offers greater definition in respect of the audience(s) for the presentational aspects and also emphasises the learner themselves as one such audience.
  5. Implicit in the preceding point is that the functionality provided by an e-portfolio system should support the formative processes by which people develop

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“A use case describes the major functions that a system will perform for the major actors, and also the goals that the system achieves for those actors along the way.” (An “actor” may be a person or an electronic tool within the scenario.)

<sup>14</sup> See Grant S, Jones PR and Ward R (2003): *Mapping Personal Developments to IMS LIP: Consultation Document*, JISC, CRA and CETIS: available from [http://www.recordingachievement.org/downloads/UK\\_LP1\\_1B\\_Final.pdf](http://www.recordingachievement.org/downloads/UK_LP1_1B_Final.pdf)

<sup>15</sup> i.e. distinct but interrelated purposes for e-portfolio use

<sup>16</sup> There has been an emerging emphasis upon the use of ICT in the assessment process in formal learning/training contexts, including the use of use of electronic portfolios with a greater use of evidence in digital format, such as in video, images or sound, which may also increase the opportunity for more flexible assessment processes (see e.g. <http://www.pgce.soton.ac.uk/ict/eps/>). We do not define this as ‘showcasing’ as the learner may have little or no say in the elements that are required for such assessment.

An earlier example of the development of Portfolios for assessment in respect of vocational competence is to be found in National Vocational Qualifications (see <http://www.dfes.gov.uk/nvq/what.shtml>).

<sup>17</sup> c) and d) comprise elements of Personal Development Planning in HE.

<sup>18</sup> Helpfully, similar categorisations are presented in a report to Becta by Strivens ‘*Current e-portfolio developments in the 14-19, Adult and Lifelong Learning Sectors*’ (2005), and in a paper reviewing emerging practice in Europe developed to facilitate discussion at the 2004 e-portfolio conference held in La Rochelle (Rees-Jones, (ed) 2004). A fifth purpose, to support individual inclusion within more differentiated learner environments, might also be added. See <http://www.inst.co.uk/clients/jisc/e-portfolio/def.html> for a consideration of criteria in terms of function, information management and use which might be considered to be central to e-portfolio systems and support.

themselves, including the ability to take responsibility for their personal, educational and career development.

6. Assuming the Learner Profile exists as a (possibly distributed) archive of electronic information, each of these uses could be supported by different electronic tools or services.

### C. Recent and relevant development work.

Early work in this area funded by the JISC produced one of the first application profiles in IMS LIP (an interoperability specification for learner information) based on the UK HE Transcript. More recent work on mapping the personal development record domain to LIP allows further applications to be developed. The British Standards Institution (BSI) Learner Profile group (IST/43/-/4), including representatives from OeE (Office of the e-Envoy), DfES (Department for Education and Skills) and JISC, subsequently commissioned the development of a UK version of the current version of IMS LIP as the normative basis for e-learning standards in this area. The aim is to develop a BSI standard (BS 8788)<sup>19</sup>. Central government also mandates standards used by the public sector in the UK through the e-GIF (electronic government interoperability framework).

The JISC has also been active in funding projects in this area as part of its Managed Learning Environments (MLEs) for Lifelong Learning programme. These have been examining the transfer of learner information between FE and HE institutions and beyond. Projects have reported their appreciation of the work of the CETIS LIPSIG, described as '*very important and very useful*' in facilitating understanding and supporting work in this area, and have expressed a strong desire for CETIS LIPSIG work to be sustained long term. Current (2003-2005) JISC projects involve employers, charities, the Universities and Colleges Admissions Service, trade unions, including the Trades Union Congress, as well as HE and FE. The external evaluation of this programme has noted the importance of e-Portfolios and PDP, and their relevance to lifelong learning, which has emerged during the programme.<sup>20</sup>

The JISC is also involved in:

1. Funding a major study into learner experiences of e-learning within the e-learning and pedagogy strand. This will consider how learners experience and participate in a range of learning activities, with personal development planning and the use of e-portfolios as one of five key areas for investigation. As far as possible the study will investigate the impact of differences among learners, such as mode and stage of study, access, gender, personal learning needs and preferences, and motivations to learn, as well as environmental factors such as the technologies available, approaches to learning, teaching and assessment, and the ways in

<sup>19</sup> Currently out for consultation. Comments are due by end of April 2005.

<sup>20</sup> Their Programme Management Report to JISC 19/01/-5, (PLSG 37) noted: '*A substantive area of investigation for the programme is that of interoperability for lifelong learning, particularly learner information profiles and personal development portfolios. Although Personal Development Profiles are cited as a benefit of MLE development through the streamlining of administrative tasks, the underpinning drivers are not identified and discussed. Currently, the ELF site shows ePortfolio as a Learning Domain service and more recently Personal Development Planning has emerged as a key theme on the new JISC e-Learning Programme site.*' See:

[http://www.jisc.ac.uk/index.cfm?name=programme\\_mle\\_lifelong2](http://www.jisc.ac.uk/index.cfm?name=programme_mle_lifelong2)

which learners are supported. The study presents an opportunity to develop a number of scenarios to capture the essence of learners' needs for, and approaches to, e-portfolios.

2. Funding a range of eLearning Tools Projects as part of the distributed elearning programme. These Projects have only recently been completed and we would aim to draw upon their experience for our definitive report.<sup>21</sup> Based upon an initial survey, key projects of relevance here are likely to be:
  - a. the Bodington III PLE Edition at the University of Manchester.
  - b. ePET, based at the University of Newcastle, which aimed to '*consolidate and fully document the generic ePortfolio tool and to offer it to the JISC community as a freely available, standards-compliant, open source ePortfolio*'.
  - c. HORUS, '*An Open-Source, Reusable Toolkit to Quality-Manage Learner-Centred, Work-based Education*' based at UMIST.
  - d. The interactive Log book tool at the University of Birmingham.
  - e. Open Mentor at the Open University, which aimed to produce a '*learning support tool for teachers in further and higher education, which will help them by providing reflective comments on their assessment and feedback of student assignments and coursework*'.
  - f. PETAL (Personal ePortfolios for Teaching and Learning) at Oxford Brookes University.
  - g. RAMBLE (Remote Authoring of Mobile Blogs for Learning Environments) at Oxford University, with its focus upon enhancing '*support for learner reflection in their Personal Learning Environment (PLE), their own evolving, individual learning space, in such a way that they can share and receive selected response to their reflections in the context of Virtual Learning Environments (VLE)*'.
  - h. SHELL-FISH at the University of Plymouth which aimed to '*deliver a learning support system by providing learners with a facility to obtain feedback, a development plan and a record of progress related to that feedback*'.
  - i. SPWS (Skills Profiling Web Service) involving Oxford, Leeds and Liverpool, which aimed to give a meta-framework for skills and competencies, using which both actual skills frameworks and related web services are defined.
  - j. V-MAP (Virtual Mapping of Portfolios) at Goldsmiths College.

In addition, eportfolio practice forms a considerable component within the regional distributed elearning pilot work, and an e-portfolio reference model is now being supported under the e-Learning Framework Reference Models call.<sup>22</sup> It is however, considered premature to draw from this work, which is at a very early stage of development. We will however, revisit this, the learner experiences study and the e-tools work in our final report

Finally, as part of further commissioned work:

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<sup>21</sup> It is understood that reports from these projects are due in at the end of April, and can be provided from 9th May onwards.

<sup>22</sup> In addition, we understand that JISC is working with DEST in Australia and Industry Canada to develop an e-learning Framework (ELF) to define the reference model for e-portfolio (and other entities) in terms of services. This requires e-portfolio to be defined, not in terms of the structure of the information it contains but rather in terms of the services which create and make use of it. There is potentially a good fit between this 'service oriented approach' and the e-strategy's view of a personalised online learning space.

4. Rees Jones et al are currently finalising a resource pack for the development of scenarios and use cases. This is intended to form the basis for the identification of Common Practice which will set out the conventions for the development of further use cases, and thereby support other organisations both in the development of use cases and scenarios and enable the identification of similarities and potential for re-use.
5. Richardson and Ward (2005)<sup>23</sup> developed and used a mapping template<sup>24</sup> to survey a range of twelve e-portfolio systems in use within the UK. The mapping tool was based on items identified as requirements to support e-portfolio processes and systems through discussions at various events and publications, including Grant *et al* (2004)<sup>25</sup>. Key conclusions were that:
  - a. the main purpose of most systems was to support Personal Development Planning or related practice, usually alongside a tutorial programme, or with the facility for mentor feedback.
  - b. Two systems appeared to be mainly an assessment management tool, and three primarily to provide a means for creating presentational portfolios or CVs<sup>26</sup>.
  - c. All systems allowed learners to create and edit text, and most supported file upload and file referencing. A few longer established systems did not include a file upload facility, but prompted learners to reference their paper based evidence on-line, and file it manually.
  - d. About half the systems allowed the learner to select person(s) to share either selected parts (or all) their e-portfolio information, but both of the assessment management products set these permissions for the learner. A few either do not include permissions for sharing information with any other person, or provide an option for the portfolio to be either 'public' or 'private'.
  - e. Very few systems supported learner preference settings for accessibility, in such a way that the learner can select screen display settings including font size and background colour, which are then applied automatically at log-in. Some systems were planning development in this area.

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<sup>23</sup> This was the first comprehensive review of purposes and functions currently represented in UK e-portfolio/PDP/Progress File products, and is published at the MLEs programme Support Project Web site [http://www.jisc.ac.uk/project\\_0103\\_support.html](http://www.jisc.ac.uk/project_0103_support.html) and at: [http://www.jisc.ac.uk/uploaded\\_documents/epfr.doc](http://www.jisc.ac.uk/uploaded_documents/epfr.doc)

<sup>24</sup> The template itself was a significant transferable outcome of the study, with much wider potential use, including:

- as a prompt to enable informed conversations between practitioners, IT experts and managers about which functionalities may be important to effectively support learners in their own context, in either systems to 'buy in' or to develop 'in house';
- to inform developers and vendors of functionality which user communities are likely to require, and
- to catalyse developers into action to enhance functionality accordingly.

<sup>25</sup> Grant A, Rees Jones P, Ward R (2004) *'E-portfolio and its relationship to personal development planning: A view from the UK for Europe and beyond.'* At: <http://www.inst.co.uk/clients/jisc/e-portfolio/def.html>

<sup>26</sup> These purposes overlap, as suggested earlier in this paper. Systems supporting PDP may include elements of assessment (especially formative), or may be used to create a presentation such as a CV, whilst assessment management tools normally prompt learners to reflect on their claims of competency or evidence of learning, which is itself an important component of PDP.

- f. Most system developers reported that *'conformance with e-learning standards was under development'* including development towards UKLeaP. A few developers appeared to be planning to improve usability and move towards the ACCLIP specification.

#### **D. Discontinuities and gaps in current provision.**

Given our broad definition of 'e-portfolio' in B above, practice which has been more focussed – in terms of a particular superset for example - now has the opportunity to become more integrated, whether with learner record and Management Information Systems within particular environments or through the development of linked congruent provision across environments (e.g. from FE to HE). Despite such opportunities, there remain a range of issues to be tackled. These include

1. **The wide and often disconnected basis for development work.** E-portfolio systems in use in the UK have been developed by:
  - a. HE institutions, often with external funding (e.g. LUSID, ePARS, RAPID).<sup>27</sup>
  - b. Commercial organisations offering dedicated e-portfolio solutions (e.g. Learning Assistant, ePortaro, QuickStep)
  - c. Commercial organisations offering e-portfolio functions within other e-learning systems (e.g. WebCT, Blackboard, LearnWise).
  - d. Government departments or regional bodies working in collaboration with commercial organisations (e.g. Careers Wales Online with Vitaelity, DfES with 3T for Widening Horizons, Oldham Progress File with Interactive Solutions).
  - e. HE/FE consortia with funding from the JISC (e.g. SHELL, V-MAP).

Such diverse sources of funding and activity for e-portfolio development can lead to contradictory priorities and reporting requirements and to a limited flow of learning between funding providers. To facilitate a more coherent approach to e-portfolio products development, there is a need for a shared understanding between funding providers (such as through the JISC-Becta strategic alliance), of commonality of functionalities' representation for either similar or different purposes, and thus, a clear focus for development.

2. **Discontinuities in respect of the emphasis upon e-portfolio usage in different sectors.** For example, work within the 14-19 context cited in Strivens (2005) suggests a particular focus upon formal assessment, with weak links to systems designed to support formal learning and overall development where these exist.<sup>28</sup> Within UK HE, by contrast, greater emphasis has been placed, perhaps as a consequence of personal development planning, upon supporting formal learning and supporting overall development.<sup>29</sup> It is perhaps here that practice is most fully formulated. In respect of related practice within employer and continuing professional development communities, many records of training and development

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<sup>27</sup> See <http://www.cetis.ac.uk/profiles/uklip/experience> for a recent report on the impact of these projects.

<sup>28</sup> Davies, Haywood and Lukman, *'Digital Technologies and the 14-19 age group'* (Nestafuturelab report 13, 2005) locate e-portfolios alongside e-assessment under the 'monitoring progress' heading, with no links to the material identified under 'Planning personalised pathways through education provision'.

<sup>29</sup> A picture supported by the Richardson and Ward study.

have been maintained by employers, as are records of appraisal discussions. In terms of continuing professional development, professional bodies require members to engage in some form of record-keeping (of their training/education/learning events and development plans) in order both to support practice and to assure itself that requirements for membership of professional recognition are being met. This context can therefore claim both presentational and assessment elements. However our knowledge of the extent and range of e-portfolio use by employers, employer organisations and professional bodies is at best rudimentary. There is therefore a need – as a first step - to review e-portfolio products across the wider employment sector.

3. **Limited links between pedagogic and e-portfolio practice.** For example, whilst the final report of the Tomlinson 14-19 inquiry recognised *‘the potential of this development to enhance the quality and efficiency of assessment’* (para 156), there are currently few examples of ‘transformational’ work in respect of e-assessment (see e.g. Ripley (2004)).<sup>30</sup>
4. **Shared challenges to effective operational practice.** As Strivens (2005) identifies, a key issue concerns the extent to which ‘a lifelong e-portfolio’ is envisaged as a single archive or a series of collections of records and evidence each associated with a single cycle of learning. The output from one cycle of learning may be kept entire or summarised; a learner may ‘wrap up’ one cycle and take the material with them, or lodge it with a database of their choosing for building on at the next stage of learning. This in turn, relates to:
  - a. the concept of ‘affiliation’, i.e. the recognition that at different stages of life individuals may associate with some organisations more strongly than others. Lifelong learning e-portfolios might therefore require both universal access by the individual and need to have the look and feel of the organisation with whom the individual at that stage feels an immediate and powerful association. This may be considered an important element of the ‘personalisation’ agenda;
  - b. a lack of coherent frameworks of skills and competencies across different initiatives or different institutions/bodies supporting learning and development. This means that skills evidenced in one context may not be recognised in another, possibly compromising the lifelong continuity of any e-portfolio developments;
  - c. a failure to address the issue of how to provide coherent access to e-portfolio information, where that information may be located in several data stores. This needs to be solved particularly to enable the operation of personal learning environments.
  - d. a generally inadequate approach to accessibility and information about accessibility preferences;
  - e. a reluctance to go beyond a ‘silo-centred’ hierarchical view of personal learner information towards the truly relational view that is necessary in order to represent the rich matrix of relationships inherent in the information that is appropriate for personal development and evidencing competence.

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At [http://www.qca.org.uk/downloads/7006\\_20040420\\_summary\\_mr\\_presentation\(1\).rtf](http://www.qca.org.uk/downloads/7006_20040420_summary_mr_presentation(1).rtf). A recent OCR pilot in the use of e-portfolios for assessment of a GCSE in ICT concluded that the moderation process took longer, and that e-portfolio products were not ready for mainstream implementation yet.

5. **Challenges to the integration of practice within sectors.** The DfES proposal for an online learning space cited above, for example, conflates different e-portfolio supersets together without considering the challenges in such conflation. Strivens (2005) has already identified such challenges in terms of the security and the necessary authentication to permit the transferability of assessment data, noting in respect of portfolios for summative assessment, that while *'there is increasing interoperability between proprietary e-portfolio systems and the systems from which such evidence may be passed (e.g. WebCT has built links with NuVentive's iWebfolio and Masterfile's eportfolio systems that allow data to be transferred directly from the VLE to the electronic archive), but ... little evidence of widespread uptake of such systems in the UK....The emphasis is on administrative efficiency, flexibility for learners, and building a rich picture of learners' achievements. There is less emphasis on reflection and personal development processes between programmes, or on transferability'*. Furthermore, *'Because of the reliance on external bodies for accreditation, the driver in schools and colleges is not the internal integration of systems but efficient production of acceptable evidence for award-bearing programmes.'*<sup>31</sup> This is echoed within the HE sector, where an ongoing series of workshops has confirmed, in most cases, a limited relationship between the Transcript and Personal Development Planning elements of the HE progress File.
6. Issues in respect of **the impact of technological changes upon not only the technical infrastructures of organisations, but also their social and cultural mores.**<sup>32</sup> Such factors may act to constrain the success of technological initiatives. Within current MLEs4LLL projects there has been a clear recognition that a technical focus is necessary but insufficient, and must be accompanied by an equal concern for the pedagogic/social/cultural environments within which any technical innovation is implemented. Major discontinuities in staffing, contractual issues and conditions of service between F and HE have all emerged as important.<sup>33</sup> Projects have identified a number of learning points which raise issues and concerns for both themselves and future JISC funded projects. These include the need to draw up formal contracts with partners before a project starts, and the necessity to obtain prior agreement in principle with committee structures about embedding practice in respect of project findings and outcomes. Another concern is how to retain such learning and disseminate it more effectively to the benefit of the wider JISC community. *'Website posting is only the first step; the greater challenge is making others aware of it, reading it and using it.'* One approach suggested by projects is that they would like to remain in contact with the JISC community to the mutual benefit of JISC and themselves, to articulate to new projects the problems faced, solutions realised, and lessons learned; and to have future work facilitated through future JISC community learning.

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<sup>31</sup> Barratt (2004) argues that such systems are effectively assessment management tools rather than tools for personal development and reflection. See <http://electronicportfolios.org/systems/concerns.html>

<sup>32</sup> An issue also highlighted within the e-strategy.

<sup>33</sup> These and related challenges, such as differences in drivers for implementing practice in FE and HE, faced by MLEs Projects working across different educational sectors, have been a recurring theme through the Programme. This has been reported by Glenaffric in their formative evaluation report to the JISC Steering Group (PLSG/39, January 2005), and in LLSP workshop notes (May 2004).

## E. What needs to happen next?

The key recommendations of this interim report are not primarily technical. This reflects the view that the successful adoption of technological change and the incorporation of this within mainstream organisational processes relates primarily to organisational, social and cultural factors rather than technical ones.<sup>34</sup> They are also tentative, in that some information has yet to become available, and do not imply an absence of activity in any area. Where appropriate they are linked to issues raised in previous sections of this document, and are offered as a basis for discussion.

1. **A coherent development agenda is needed which pays attention to the range of purposes for which e-portfolios can be used.** Specifically, consideration should be given to supporting the development of e-portfolio systems which:
  - a. allow access to material stored under the learner's control, containing what the learner wants, with information required by other organisations retained by them and integrated into the e-portfolio architecture so that it is all viewable by the learner and its viewing by third parties is also under the control of the learner;
  - b. enable the individual to develop multiple e-portfolios for each of the four categories identified above or for combinations of them as appropriate to the learner's situation and aspirations;
  - c. keep end-to-end security firmly in view;
  - d. encourage the development of Web-Services for e-portfolio in support of;
    - i. the re-use of e-portfolio information in new contexts;
    - ii. the personalisation of learning, including for individuals not involved in formal learning or development environments;
  - e. pays full attention to the issues identified in D1, 3, 4 and 5 above.
  
2. **This development agenda needs to be integrated across sectors and organisations in terms of standards and interoperability** (see D2 above). JISC should therefore support the development of information systems which are compatible with the UKLeap information model as this is further refined and developed. The e-portfolio reference model will provide a starting point for the evaluation of UKLeaP in order that a developed IMS specification for e-portfolio might be produced. It does however, offer a starting rather than a finishing point, and one whose outcomes will not be available to inform new work commencing in late 2005. The current version of UKLeaP may not appropriately reflect established management information systems within the schools sector, does not cover accessibility, packaging digital artefacts, or webservices, and moreover is based upon standards (IMS LIP and e-portfolio) that are themselves undergoing development.<sup>35</sup> However current UK e-portfolio projects and development initiatives are well-placed to build up experience in practical, 'semantic' interoperability. If they can be persuaded to work in more inclusive and consensual ways under the auspices of what has been CETIS LIPSIG then there is a real hope of developing (using the experience of UKLeaP) a workable interoperability

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<sup>34</sup> Data interoperability and transferability, accessibility, security and maintenance all depend on organisational processes as well as technical standards.

<sup>35</sup> Other specifications of relevance to future work are likely to include enterprise, accessibility LIP, content packaging and learning design.

standard for the UK, positioned to form the basis of European and international standards in the future. To facilitate this, work currently led by CETIS needs to be supported and sustained over the longer term (see also page 5).

- 3 The current short life cycle Project model might profitably be re-appraised in terms of costs and benefits (D1).** While it might ‘spread the risk’ in terms of investment, two significant challenges identified by Projects are:
- a. the challenge of building robust evidence to support particular practice. For example, recent Projects report a wish to continue longitudinal evaluation of their ‘e-PDP’. Within the Project timeframes these will be complete and on test bed running, but there will be insufficient time to expose such systems to significant number of users<sup>36</sup>;
  - b. the challenge, within the context of multiple overlapping Projects with a range of starting and finishing dates, of building upon learning from previous work.

To maximise the learning from short life Projects, we recommend that JISC require Projects to:

- i. include scenarios development as a formal element within phase 1 of their work, such scenarios being produced from the users’ perspective;
  - ii. devote an agreed element of their budget to dissemination activities, or fund this element additionally and require Projects to participate within it;
  - iii. consider making available transferability funding to Projects, of the kind currently available to FDTL Projects in HE.<sup>37</sup>
- 4. In the context of a wide array of often short life funded Projects, albeit with connectivity between some over time, there is a strong need for the development of a ‘long-thin’ Project that will last for a minimum of three years and that will act as a point of contact and source of information and guidance for work on e-portfolio implementation (D1-6).** This should ideally be a ‘one-stop’ shop, building capacity, providing networking and brokering facilities to development work funded from within and outside JISC, helping new Projects to ‘hit the ground running’, and JISC as a whole to gain maximum learning from work it funds and maximum synergy with work funded from elsewhere. This would also:
- a. enable key Project learning from the process of undertaking Projects to be retained and disseminated;
  - b. make available project learning to a wider community through clearly articulated dissemination strategies and activities;
  - c. keep track of the slowly evolving cultural factors in educational institutions which may prevent the successful adoption of e-portfolio and related systems;
  - d. capture learning in Project and other reports, and feed this in dynamically to future strategic decision making and operational action.<sup>38</sup>

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<sup>36</sup> This is also congruent with Recommendations 4 and 5 of Richardson and Ward (2005), namely:

- to obtain practitioner evaluation of selected existing e-portfolio systems;
- to obtain learner evaluation of selected existing e-portfolio systems.

<sup>37</sup> This allows Projects with a successful record to bid, on a competitive basis, for a further amount of funding with the express purpose of supporting related development work in other environments, thus building capacity.

<sup>38</sup> The key distinction being made here is between reporting and using data.

5. **The focus upon support for institutionally led projects should be complemented by support to networks of leading-edge organisations in the development of properly relational information models which are ‘fit for purpose’ as defined by practitioners (D1-6).** This might build upon existing approaches to functional requirements gathering. The work previously carried out by the CRA, for example, included a list of thirty-three ‘generic activity types’<sup>39</sup> that formalised the tasks typically carried out by learners in relation to an e-portfolio system and a developing set of ‘use cases’ which represented more complex processes or work-flows that may be undertaken by different stakeholders.<sup>40</sup> It may also inform a code of practice setting out how e-portfolio providers should establish and maintain metadata defining who can access and update an e-portfolio. Such a code should also cover the deletion of information from the e-portfolio.
6. **There is a clear need to ‘field test’ the implementation of policy** (e.g. in respect of DfES and HEFCE e-learning strategies) in order to provide feedback to policy makers and support more effective implementation strategies. This is at least as important beyond the HE sector as it is within it. For example:
- a. Research and technical development is needed to support the ‘personalisation’ agenda in relation to eportfolio, e.g. in respect of ‘affiliation’, into how approaches should be adapted to accommodate specific learner differences, the role of learning styles, and into the costs and benefits of taking account of such differences in the provision of e-portfolios.
  - b. Research into e-portfolio take-up is needed which recognises learner perspectives and expectations and which both identifies facilitating and inhibiting factors and supports Projects in undertaking such work for themselves.<sup>41</sup>
  - c. In educational contexts characterised by more differentiated and unitised curriculum structures and vocational ones characterised by greater labour market fluidity, attention should be paid to developing:
    - i) the integration of practice across diverse locations (D4, 5);
    - ii) optimal guidance functions to support such practice, so personalising the guidance function (as opposed to the information function). There is a need to develop appropriate technology to help learners to make decisions about pathways to take for progression to their next episode of learning – either educational or career. This in turn, implies a need to identify and link together ‘kinds of information learners need about their performance’, relevant ‘levels of guidance’ and ‘potential pathways’.<sup>42</sup>
  - d. In relation to European developments, there is a need to ensure both that the UK plays a full role in the development of European instruments (e.g. within the Europass ‘family’) that are ‘fit for purpose’, and that the semantic value of the achievement and performance of a learner and the requirements of an employer or the organisation in one state may be understood in another.

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<sup>39</sup> See <http://www.cetis.ac.uk/members/PDPcontent/viewActivityTypes>

<sup>40</sup> See <http://www.elframework.org/general/requirements/scenarios/>

<sup>41</sup> This aligns with Recommendation 6 of Richardson and Ward (2005), namely ‘to study learner take up, and impact on the learner of selected e-portfolio systems’.

<sup>42</sup> This links the first two priorities of the DfES e-strategy (‘*an integrated online information service for all citizens*’, and ‘*integrated online personal support for children and learners*’, together. Some work has been carried out in this area in European contexts.

7. **Organisational processes and resources have to be considered when developing the data model for e-portfolios.** Support will be needed for institutions in integrating systems, particularly in the schools and FE sectors which may lack the level of in-house technical support typically found in HEIs. Students will increasingly demand a single access point for all the technology they use and there is also likely to be an increasing demand for the use of mobile technologies. Institutions will need both support and encouragement, to recognise the validity of these demands and to adapt their technology to cope with them.
8. **There should be a concerted effort to engage employers and organisations concerned with continuing learning and professional development in development work (D2, 4a, 4b) and to gain a better knowledge/understanding of existing e-portfolio software and practice in this sector.** Some already have become involved via project activities (such as PROSPERO with BT and Union Education Online) or other activities (such as the creation of the eportfolio-uk jisc mailbase). However many such organisations, whilst recruiting online and supporting online CPD or appraisal processes, have yet to engage with wider developments, or to connect these with previous practice, in HE for example. Here the e-portfolio mapping tool referred to above (Ward and Richardson, 2005), could have a central role, in two regards:
  - a. as a useful prompt for shared understanding, and could be used to extend understanding and practice into less well developed sectors;
  - b. to survey existing e-portfolio products in the sector.
9. **To support practical implementation, the emphasis upon ‘open source’ needs to be complemented by stronger levels of engagement with commercial Virtual Learning Environments providers.** Many education providers are encouraging staff to use the e-portfolio functions that are becoming available commercially within Blackboard, Learnwise and WebCT.<sup>43</sup> In order to avoid a context where practice is defined by system providers as opposed to learner needs, support should be given to the further development and use of the mapping tool developed by Richardson and Ward as a basis for fostering quality conversations about eportfolio requirements.
10. **E-portfolio developments should not lose sight of their potential to foster creativity and innovation in pedagogic practice.**

**Paper produced by Rob Ward**

*with support from Helen Beetham, Simon Grant, Peter Rees Jones, Helen Richardson and Janet Strivens.*

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<sup>43</sup> See <http://www.recordingachievement.org/downloads/100092.pdf> for discussion of a project at Edge Hill College where Geography students collected PDP evidence using WebCT.