

## Getting what you want from e-portfolio systems: a starting point for MIS Managers in HE.

This guidance template is one of six documents aimed at different audiences that have been developed to help Higher Education (HE) institutions make informed choices about e-portfolio systems, from a range of different perspectives. The others in this series include:

- Generic guidance: [http://www.jisc.ac.uk/uploaded\\_documents/Guidance\\_final.doc](http://www.jisc.ac.uk/uploaded_documents/Guidance_final.doc)
- A starting point for institutional managers in HE: [http://www.jisc.ac.uk/uploaded\\_documents/Guidance\\_man.doc](http://www.jisc.ac.uk/uploaded_documents/Guidance_man.doc)
- A starting point for students in HE: [http://www.jisc.ac.uk/uploaded\\_documents/Guidance\\_student.doc](http://www.jisc.ac.uk/uploaded_documents/Guidance_student.doc)
- A starting point for technical developers in HE: [http://www.jisc.ac.uk/uploaded\\_documents/Guidance\\_tech.doc](http://www.jisc.ac.uk/uploaded_documents/Guidance_tech.doc)
- A starting point for Personal Development Planning (PDP) practitioners in HE: [http://www.jisc.ac.uk/uploaded\\_documents/Guidance\\_PDP.doc](http://www.jisc.ac.uk/uploaded_documents/Guidance_PDP.doc)

This template has been completed from the perspective of MIS managers. It provides a perspective on the key issues in developing and implementing e-portfolios from their point of view.

As every institution is different, you might not agree with all they say.

However, it might help you to clarify your own ideas about your contribution to your institutional discussion about developing and implementing e-portfolio. The third column gives space for you to record your own ideas.

A blank template for recording results of collective discussions with other stakeholders can be found in the generic guidance document.

<b>Aspects/functionalities/features/ for consideration<sup>1</sup></b>	<b>Key issues for MIS managers</b>	<b>Key Issues for you</b>
	Remember that this is not a categorical list, but some first thoughts from other MIS managers to help you decide what the key points are for you, and for learners in your context.	
1) Target learners and e-portfolio purpose(s)		

<sup>1</sup> We suggest that the questions may appropriately be used as an aid to conversation with colleagues, including institutional managers, PDP practitioners who support learners, IT developers, and with learners. With this in mind, we have addressed the questions to 'we/our', as though readers are asking colleagues and themselves together. The question tool may also be used by an individual as a personal prompt, in which situation, a reader may prefer to read it as though addressed to 'I/my'.

<ul style="list-style-type: none"> <li>• Who are our target learners?</li> <li>• What is their stage/episode of education or employment?</li> <li>• How does this build on previous stages of their learning?</li> <li>• How might this prepare for their next stages of learning?</li> </ul>	<p><i>As well as all U/Gs and P/Gs (taught and research), an important group are alumni, including graduates whose professions require them to be re-validated at regular intervals through an e-portfolio</i></p>	
<p>What do we see as the main purpose(s) of e-portfolio for our learners?</p> <ul style="list-style-type: none"> <li>• to support formal (e.g. curricular) learning/learning to learn</li> <li>• to support overall development (including personal and career areas, and experience/learning from less formal contexts)</li> <li>• to support formative assessment,</li> <li>• to provide an assessment management tool, for formal summative assessment</li> <li>• to create a presentational portfolio/showcasing for progression</li> <li>• to support transition between different learning environments</li> <li>• to support personalisation, effective choices and pathways</li> <li>• Other purposes?</li> </ul>	<p><i>E-portfolio may provide a business opportunity.</i></p> <p><i>The institution could benefit, through e-portfolio developments, to foster better customer relations with former graduates for marketing purposes. Institutions need to maintain contact with alumni, and pro-actively to offer available courses, e.g. business management courses, or revalidation for graduates, whose professions require regular revalidation, including updating their e-portfolio as evidence of their CPD.</i></p> <p><i>Customer Relationship Management (CRM) may already be used in Student Records Services , so the student facing infrastructure may already be in place.</i></p> <p><i>There are interesting linkages between the VLE and e-Portfolio (assuming these are separate for your institution). Realising the benefits available here will require not just technical integration (for which see also section (4), but the input of pedagogic experts and learning technologists.</i></p>	
<p>2) What guidance to support learner is important in our context to include online or alongside? (Would you include this 'online' or 'alongside' the e-portfolio system?).</p>		
<ul style="list-style-type: none"> <li>• Guidance to learner on the purpose(s) of the system</li> <li>• Guidance to learner on how to use the system</li> <li>• A tutorial programme alongside to support the e-portfolio process</li> <li>• On-line tutor/mentor support for feedback to learner</li> </ul>	<p><i>Guidance is particularly important for tutors, to ensure they have the appropriate development opportunities to support their learners (see also section 9).</i></p> <p><i>Based on experience of implementing VLEs, if an institution is complacent about support and training for tutors, uptake and 'outcomes' of use</i></p>	

<ul style="list-style-type: none"> <li>Diagnostic tools to assist with self-assessment, or educational or career planning</li> </ul> <p>Other guidance?</p>	<p><i>by individual tutors will vary from excellent to very poor. As a result, tutor support of students will vary, and students' experiences will be 'patchy' – good for some, poor for others.</i></p> <p><i>MIS can help in defining guidance material by construction of a business process model. This will also be useful at a more technical level.</i></p>	
<p>3) Information management: a) What types of information are/will be managed by a learner, and will <b>not</b> be processed for the purposes of the institution?<sup>2</sup></p>		
<ul style="list-style-type: none"> <li>Personal development records (PDRs) e.g. statements of interests and achievements; claims of progress, skills, and competency; aspirations, goals, plans</li> <li>Evidence, e.g. qualifications, certificates, licences, other digital files (audio, video, picture)</li> <li>Reflections</li> <li>CV</li> <li>Other information?</li> </ul>	<p><i>Adequate storage capacity is an important consideration here (see section 7).</i></p> <p><i>In theory, the institution will determine this. In practice, the institution may need help in determining this. It could be a complex data modelling issue and MIS skills in this area can support discussion and clarification of requirements. MIS has a dual role in both clarifying and delivering institutional requirements.</i></p>	
<p>b) What types of information will be managed by a learner and will <u>also</u> be processed for the purposes of the institution?</p>		
<ul style="list-style-type: none"> <li>Is our institution acting as a data controller of e-portfolio learner information? (Yes/No)<sup>3</sup></li> </ul> <p>If 'yes', does our institutional notification to the Information Commissioner cover our proposed processing/ use of e-portfolio learner data?</p>		
<p>c) Information owned and managed by Institution/ Organisation</p>		
<p>Developing transcript - will a learner be able to view progress/assessed achievements (marks, grades) to</p>	<p><i>In many cases students will have online access through their portal, and each will see his/her</i></p>	

<sup>2</sup> Legal framework terminology for what is often described in lay terms as 'owned by the learner'.

<sup>3</sup> For the purposes of the Data Protection Act (1998), the institution is a 'data controller' of learner data that are processed for the institution's purposes. For a discussion of obligations of a 'data controller' with respect to a 'data subject', and related DP issues, see endnote reference to the JISC Legal Aspects of ePortfolios. If the institution is not a data controller, then the DPA 1998 does not apply to the information, but e-portfolio system users may need advice on DP implications of their own activities – see section 3d.

evidence formal progress during a period of study?	<p><i>transcript as it progresses.</i></p> <p><i>This facility can be developed to allow 'forecasting' of module/degree outcomes according to different options, to facilitate learners making informed choices ("if I do this and this, this year, what can I do next year?"). (This would be associated with 'pathways to support' developed by pedagogic experts and technical developers – see PDP practitioners' perspective – sections (1, 2) ??).</i></p>	
Transcript – will a learner be able to view and link to transcript as authenticated evidence of achievement after period of study?	<p><i>Suggested approaches include: Provided the e-portfolio and student record system are adequately integrated, the official transcript should be visible to the student from one or the other.</i></p>	
How will security and authentication of transcript information be assured and maintained?	<p><i>Each Institution will have mechanisms to ensure security and validity, and this should allow it to make its own records secure and tamper proof, provided it has integrated access control (e.g. single sign on).</i></p> <p><i>Although in theory this is easy to implement, in practice it will be a few more years before the reality lives up to the theory in all cases. 'All cases' may include 'in all institutions', and also, 'for all products', because an institution may have some products which are compatible with single sign-on and some which are not. .</i></p> <p><i>Security is less easy to control if a record is moved on to another organisation, such as when a learner registers elsewhere – see also sections 6 and 7.</i></p>	
How will the e-portfolio interoperate with our existing VLE? MLE? MIS?	<p><i>In theory, this is "eminently achievable", if national standards that are being developed are adhered to. Usually XML will be used to determine the fields involved and allow a relatively free-flow of information.</i></p>	

	<i>In practice, although standards do exist, they are not available for all types of data, or for all systems. Developers should try to exploit existing standards and build in capability to use them in the future, but may find that integration with non-standards compliant systems requires building you own solution rather than buying a product.</i>	
Other considerations?		
d) What information might be managed or processed collaboratively, e.g. by more than one learner, or by more than one organisation? What are the implications of shared information? <sup>4</sup>		
<ul style="list-style-type: none"> <li>• Collaborative work involving other people's personal data</li> <li>• Work undertaken with another organisation, e.g. work experience placement</li> <li>• A record of a discussion at key review points</li> <li>• Learner information shared with the institutional MIS, and re-used for the purposes of managing the e-portfolio</li> <li>• "Does our portfolio system have suitable prompts about the use of other people's data, or other people's copyrighted material, at the point of incorporation?"</li> </ul> Other considerations?		
4) Managing information: How will a learner manage information? What editing rights and facilities will a learner need?		
; e.g. should a learner have rights/facilities to: <ul style="list-style-type: none"> <li>• enter, edit and save text? (e.g. personal development records)</li> <li>• upload files as evidence of learning/competency etc? (these might be text, images, audio, video)</li> <li>• hyperlink to files as evidence? (text, audio etc)</li> <li>• export files?</li> </ul>	<i>Obviously uploading of files has a significant impact on data storage requirements – see 7 below.</i>	

<sup>4</sup> For all potentially shared data, considerations include: "Who has an interest, an obligation, a right with respect to these data? What is the interest, obligation, right?" e.g. Is the learner's sponsor aware of, and agreeable to, use of their placement data, (which may include commercially sensitive data) in the learner's portfolio?  
"Does our portfolio system have suitable prompts about the use of other people's data, or other people's copyrighted material, at the point of incorporation?"

<ul style="list-style-type: none"> <li>• create his/her own web page templates?</li> <li>• see all his/her data and a list of uploaded and linked files?</li> <li>• view/link to his/ her developing transcript/awarding body record?</li> <li>• Other considerations?</li> </ul>		
<b>5) Privacy<sup>2</sup> and ownership/stewardship<sup>5</sup> of information</b>		
<ul style="list-style-type: none"> <li>• Is our institutional Data Protection Officer (DPO) aware of our (planned) e-portfolio implementation? Do we have an ongoing dialogue with our DPO to tackle data protection issues as they arise?</li> <li>• What is our institutional data protection policy (DPP)?</li> <li>• How does our e-portfolio implementation relate to this policy?</li> <li>• Will a learner be able to view the institutional DPP from within the e-portfolio system? (Yes/No)<sup>6</sup></li> <li>• Who will have permission to view all or part of a learner's e-portfolio?</li> <li>• Who will set permissions for sharing learner information? (learner/Department/ School/ Faculty/Institution/ awarding body/company?)</li> <li>• How long may/must data be stored after learner leaves Institution /Organisation? What are the institutional obligations of stewardship?</li> <li>• Other considerations?</li> </ul>	<p><i>It is very important to be aware of both Data Protection and freedom of information Acts.</i></p> <p><i>It is very important to define at outset who can see what in a learner's e-portfolio.</i></p> <p><i>Storage time frame is an important consideration, not only for DP, but also for <b>retrieving archived records</b>. If a system cannot find a record (e.g. an award), there will be a need to authenticate the person claiming it. There would be a need to determine whether the reason for non-retrieval is that the person's name has changed, or whether it is a 'fraudulent' claim? (see also section 7). This sort of issue would need to be managed with both sensitivity and rigour.</i></p>	

<sup>5</sup> Where 'stewardship' is defined as 'the assumption of responsibility for the proper management of learner data'. See Q 4 of (1.) of a series of papers in the form of FAQs, produced by the JISC Study to Explore the Legal and Records Management Issues Relating to the Concept of the Lifelong Learner Record 2

<sup>6</sup> If 'yes', can a learner view information about the policy and institutional use/processing of their data, by means of collection notices at a point when personal data are collected?  
If 'no', how are learners advised about DP implications of their own e-portfolio activities?

6) Accessibility/usability	6) Accessibility/usability	6) Accessibility/usability
<p>Accessibility/usability issues which should be taken into consideration include:</p> <ul style="list-style-type: none"> <li>• Does our e-portfolio system comply with our obligations under the DDA and SENDA <sup>3</sup>?</li> <li>• can each learner select preference settings for screen display – font style, size, colours of font and background, which are stored and automatically applied at log-in?</li> <li>• is accessibility via a keyboard (instead of a pointing device) available to a learner?</li> <li>• Other considerations?</li> </ul>	<p><i>It is important to be aware of the relevant standards, including W3C and IMS AccLIP<sup>4</sup>.</i></p> <p><i>In theory, accessibility can be achieved by building an interface to the standards.</i></p>	
7) Storage capacity and storage duration		
<ul style="list-style-type: none"> <li>• How much space will be allocated to each learner's PD records and digital files?</li> <li>• How long will a learner's records be retained, so that learner may reflect back on progress between 'then' and 'now'?</li> <li>• Other considerations?</li> </ul>	<p><i>This is hugely important and there are complex scalability challenges to consider.</i></p> <p><b><u>Where the record is held is an important factor:</u></b></p> <p><i>One model is that the originating organisation maintains a Life Long record.</i></p> <p><b><i>This needs</i></b> a means for other institutions to be able to link securely to the data if the student studied at multiple institutions.</p> <p><b><i>The Advantages</i></b> are that this maximises <b>security and validity</b>, and needs only an institutional ULN;</p> <p><b><i>but has potential disadvantages</i></b> for:</p> <ul style="list-style-type: none"> <li>• <b>storage capacity</b> requirements;</li> <li>• <b>immediacy of access:</b> whether all records are dynamically /immediately available online or whether some are archived, and can be retrieved, but with some 'delay' in access;</li> <li>• a need for a secure mechanism for web-linking to them from the current organisation;</li> </ul> <p><i>An alternative model is that, as a learner moves on, their transcript moves to the next organisation. as part of their e-portfolio.</i></p> <p><b><i>This needs:</i></b> system to maintain then feed</p>	

	<p>records from one organisation to the next; standards for how records are sustained and made secure.</p> <p><b>The advantages</b> are that</p> <ul style="list-style-type: none"> <li>• the originating organisation needs to hold/has responsibility for data record for a shorter time;</li> <li>• there should, therefore, be less problem with retrieving data many years later, and potential associated need to authenticate a person claiming data (see also section 6).</li> </ul> <p><b>Potential disadvantage</b> is that:</p> <ul style="list-style-type: none"> <li>• security/validity may be compromised as records are moved on, and the originating organisation no longer has control of them.</li> </ul> <p>Another consideration is whether the data are held in a single store or 'distributed'. If 'distributed', every learner (including international students) would need a 'national' ULN to access their data from the various distributed 'stores' (via Personal Information and Aggregation Distribution Services).</p> <p>However, in practice the protocols to support the various options are "theoretical" so at present none of them is really available. Although there may be standards for sharing and exchanging these data (e.g. IMS LIP, UKLeaP), there are few cases where they have been implemented. Technically it may be soluble, but the "business process" on a national and international scale is problematic. There is little evidence of such interchange as a routine procedure.</p>	
<p>8) What does the system need to conform to e-learning standards?</p>		
<p>How will the system interoperate with other systems, so that:</p> <ul style="list-style-type: none"> <li>• a learner can transfer his/her PD information from previous stage, and to next stage of learning/organisation without re-keying information?</li> </ul>	<p>This is an essential consideration, but transferring information to later stages of learning at the same institution should not be a problem, if the student and course systems are sufficiently "joined up". Also, standards can be added to later as they are</p>	

<ul style="list-style-type: none"> <li>• an organisation can transfer a learner's information from previous, and to next, stage of learning/ organisation without re-keying information?</li> <li>• Other considerations?</li> </ul>	<p><i>further extended.</i>  <i>At an inter-institutional level, however, learner information transfer is currently generally not operative (See also (7) above.)</i></p>	
<p><b>9) What other resources do we require to run alongside to assure effective learner support?</b></p>		
<ul style="list-style-type: none"> <li>• e.g. human resources, such as tutor support, IT support for learner and system, IT developer support for further development.</li> <li>• Other?</li> </ul>	<p><i>Coherent support for tutors to learn to use e-systems is essential.</i></p> <p><i>Previous experience has shown that if institutional support is inconsistent, the result is uptake and 'outcomes' of use among staff and students which vary from excellent to very poor. There is no room for institutional complacency.</i></p> <p><i>A clear definition of the "business process" supporting the e-Portfolio in the institution will be helpful and should define the various roles which need to be filled.</i></p> <p><i>The further development of any system will obviously be subject to the project governance process of each institution.</i></p>	
<p><b>10) Evaluation</b></p>		
<p>How might we evaluate efficacy, e.g.</p> <ul style="list-style-type: none"> <li>• level of use by learners</li> <li>• impact on learners</li> <li>• impact on staff</li> <li>• Other?</li> </ul>	<p><i>For web based systems, there are plenty of tools to monitor levels of use.</i></p> <p><i>From an MIS point of view, there is a need to supply management information relating to the e-portfolio system. Ideally this should be defined up front before the system is deployed. Often of course, this type of thing is an afterthought.</i></p>	

This perspective has been developed by Rob Ward and Helen Richardson with contributions from Stuart Brown (Oxford Brookes University) and Mike Vale (University of Manchester) and the JISC Legal Study team.

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**Acronyms:**

DDA – Disability Discrimination Act  
DPA – Data Protection Act 1998  
JISC – Joint Information Systems Committee  
MIS – Management Information Systems  
MLE – Managed Learning Environment  
PDP – Personal Development Planning  
PDR – Personal Development Record(s)  
SENDA – Special Educational Needs and Disability Act 2001  
VLE – Virtual Learning Environment

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<sup>2</sup> A series of papers in the form of FAQs, produced by the JISC Study to Explore the Legal and Records Management Issues Relating to the Concept of the Lifelong Learner Record:

1. Legal Aspects of ePortfolios: A Short FAQ - [http://www.jisc.ac.uk/uploaded\\_documents/Legal\\_Aspects\\_FAQ.pdf](http://www.jisc.ac.uk/uploaded_documents/Legal_Aspects_FAQ.pdf) (accessed 23/12/05)
2. Data Protection, Lifelong Learner Record Systems and ePortfolios: A short FAQ - [http://www.jisc.ac.uk/uploaded\\_documents/Data\\_Protection\\_FAQ.pdf](http://www.jisc.ac.uk/uploaded_documents/Data_Protection_FAQ.pdf) (accessed 23/12/05)
3. Consortium Agreements: A Short FAQ - [http://www.jisc.ac.uk/uploaded\\_documents/Consortium\\_Agreements.pdf](http://www.jisc.ac.uk/uploaded_documents/Consortium_Agreements.pdf) (accessed 23/12/05)  
(Further outputs and information on the legal study can be found at: [http://www.jisc.ac.uk/project\\_learner\\_records\\_legal\\_study.html](http://www.jisc.ac.uk/project_learner_records_legal_study.html) ) (accessed 23/12/05)

<sup>3</sup> Special Educational Needs and Disability Act 2001 <http://www.hms0.gov.uk/acts/acts2001/20010010.htm> (accessed 23/12/05)

<sup>4</sup> IMS AccLIP (Accessibility for Learner Information Package) has recently been put forward to ISO (International Standards Organization). As a result, the first public draft international standard of the "Individualized Adaptability and Accessibility in E-Learning Education and Training", which builds on these IMS specifications, is now available for comment. Three documents (in PDF format) make up the draft international standard:

\* ISO/IEC CD 24751-1 "Individualized Adaptability and Accessibility in E-Learning Education and Training Part 1: Framework" - <http://jtc1sc36.org/doc/36N1024.pdf> (accessed 15/09/05)

\* ISO/IEC CD 24751-2 "Individualized Adaptability and Accessibility in E-Learning Education and Training Part 2: AccessForAll Personal Needs and Preferences Statement" - <http://jtc1sc36.org/doc/36N1025.pdf> (accessed 15/09/05)

\* ISO/IEC CD 24751-3 "Individualized Adaptability and Accessibility in E-Learning Education and Training Part 3: AccessForAll Digital Resource Description" - <http://jtc1sc36.org/doc/36N1026.pdf> (accessed 15/09/05)

A recent briefing paper in this area is available at <http://www.cetis.ac.uk/static/briefings.html> (accessed 15/09/05). The briefing outlines how the spec can be used to store learner's preferences about how they want to interact with online e-learning resources. The spec is complemented by one designed to record the accessibility properties of resources themselves, and a briefing about that spec will be released in due course.