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## e-Portfolios

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# Definitions

The term portfolio as used in the UK generally describes a collection (or archive) of reflective writing and associated evidence, which documents learning and which a learner may draw upon to present her/his learning and achievements (Developing and Implementing a Methodology for Reviewing e-Portfolio Products, Ward and Richardson, The Centre for Recording Achievement.)

A portfolio therefore encompasses the concept of personal development records (PDRs), including records that may contribute to the HE Progress File (Dearing, 1997), and extends beyond that to incorporate artefacts which may evidence claims made in PDRs. It may also include a range of tools, for example diagnostic tools and links to material and resources which help the learner to develop the skills required to create the artefacts.

A definition given by PebblePad.co.uk goes a stage further. They state that an e-portfolio is 'A system which allows users, in any of their learning identities, to selectively record any abilities, events, plans or thoughts that are personally significant; it allows these records to be linked, augmented or evidenced by other data sources and allows the user to integrate institutional data with their personal data. It facilitates self-awareness, promotes reflection, supports enrichment through commentary and feedback from the recipients of shared assets. It grows, develops and matures as the user accesses it, without constraint, over time. It provides tools for aggregating assets in multiple forms; for telling myriad stories to diverse audiences and ensures absolute user-control over what is shared, with whom, for what purpose and for how long. It is a personal repository; a personal journal; a feedback and collaboration system; and a digital theatre – where the audience is by invitation only.'

Your learners may not need all of the functionality that is included in the above definition but you need to consider that your learners' requirements will change over the time of their course, and during their lifelong learning journey.

The DfES in conjunction with BECTA and JISC have identified the following key features for e-portfolios:

- Concept: multi-user, multi-component
- Users: learners, teachers, employers, examining boards, parents
- Components: learning space, record, plan, CV
- Transactions: planning learning, assessment, admissions
- Features: accessibility, secure, portable
- Requirements: user policy, strategic architectures

(Anne Wright, e-Learning Strategy Unit, DfES – presentation given at the European Institute for E-Learning e-Portfolio 2005 conference, referenced on previous page).

## e-Portfolio Models

From the previous definition we can distil three main purposes for the e-portfolio:

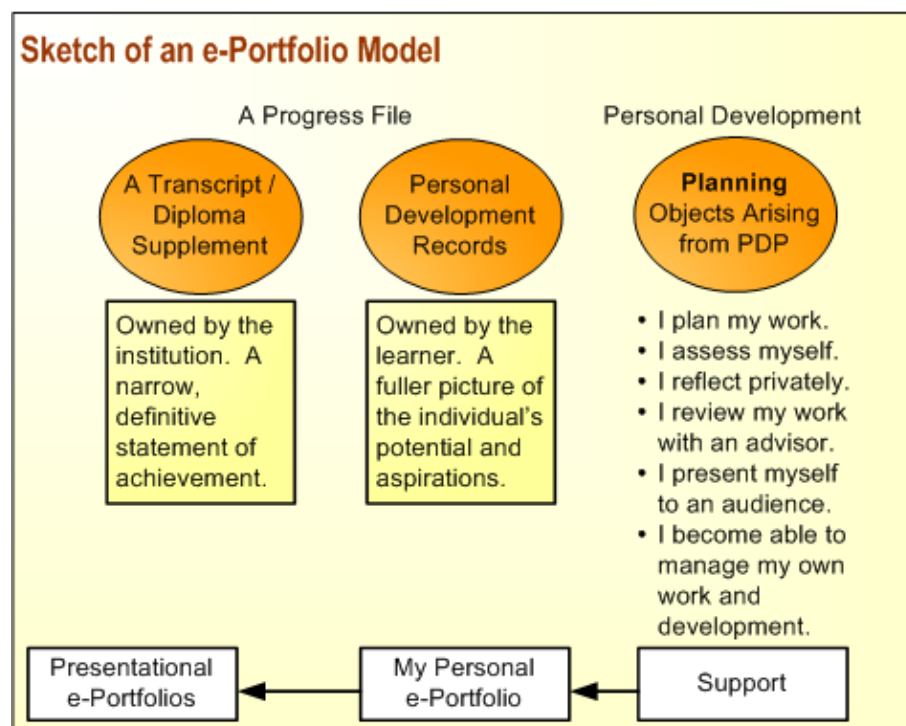
- reflective learning leading to planning and personal development and career progression

- associated evidence on which to base the reflection
- support, advice and assessment

A variety of models covering these purposes are emerging and we consider some of these here.

## Relationship with HE Progress Files

The diagram below, adapted from a presentation by Peter Rees Jones of CETIS shows how these elements relate to the progress file and transcript as suggested by Dearing 1997. The presentation was given to a joint meeting of the CETIS Pedagogy Forum and CETIS Learner Information Profile Special Interest Group (LIP SIG) on 30th June 2004.



## Supporting Reflection

The e-portfolio can be used to support reflection and that may help students understand their own learning. Helen C Barrett of the REFLECT Initiative in the US has written a white paper that discusses this, and e-portfolios in general, in more detail.

## Functions and Pedagogic Processes

This view of an e-portfolio is supported by Graham Attwell and is shown as the seven functions of an e-portfolio that can be mapped against different pedagogic processes.

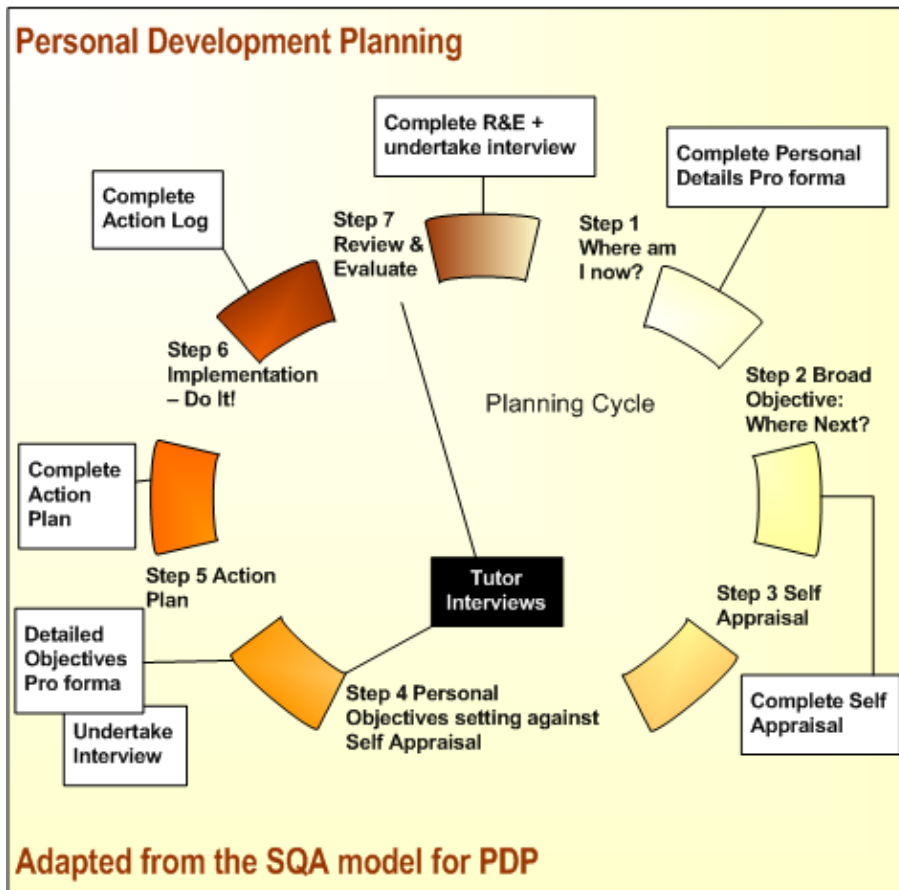
Recognising Learning	This is straightforward if within the formal education system, but gaining some form of recognition or credit for lifelong learning is more
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	problematic.
Recording Learning	What should be recorded in an e–portfolio? Everything/summary of past with detail of current? This has space implications.
Reflecting on Learning	Reflection is central to the learning process. This may be private, shared or public. Some learners find this aspect of learning difficult; journals and blogs can help here.
Validating Learning	Proving that the learning has taken place. This may be formal with tutor feedback and transcript or informal through self–assessment/peer feedback/a link to a product (artefact/asset) that demonstrates that the learning has taken place.
Presenting Learning	Need to be able to present the learning products in different ways for differing purposes, e.g. assessment or verification, interview, demonstrating to oneself that learning has taken place.
Planning Learning	This is linked to reflection: reflect in order to plan the future. What does the learner want to achieve and what is achievable given constraints? In a formal learning setting this could assist choice at the course/module level or steer choice within assessment.
Assessing Learning	External verification that learning has taken place. For example, this may be formal as in a tutor marking to previously agreed/stated criteria or informal by peers using stated criteria.

## The Scottish Qualifications Authority PDP Model

The Scottish Qualifications Authority (SQA) breaks the personal development planning (PDP) process into 7 stages and key milestones. This is a useful framework based on a typical lifecycle model (similar to JISC infoNet's Analysis, Planning, Implementation and Review cycle) and one that has been adopted by some institutions in Scotland.

Further details can be found at [http://www.sqa.org.uk/files\\_ccc/Tutor\\_Guide\\_PDP.pdf](http://www.sqa.org.uk/files_ccc/Tutor_Guide_PDP.pdf).



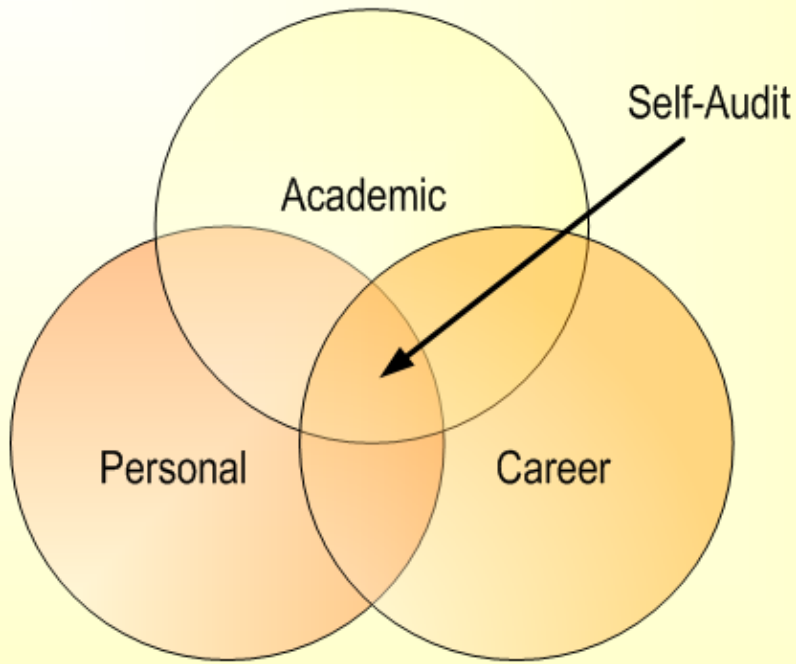
## Competency Model

The University of Waterloo in Canada has taken a slightly different approach and has developed a model based on competencies that seeks to help students connect learning that has taken place in different contexts – professional, strategic, valuing, learning and domain. This enables learners to demonstrate concretely what they know – validating learning and presenting learning being the emphasis. This approach is similar to that taken by the Dutch professional/technical universities.

## The Effective Learning Framework Model

The Effective Learning Framework (ELF) model has been developed by the Joint Working Group of Universities Scotland and the Scottish Advisory Committee on Credit and Access (SACCA). The concept of this model is that PDP is only one of the processes embedded in the general framework of learning. The SQA planning cycle shown previously could be incorporated into each of the 3 areas of the ELF model. [NB. This ELF model should not be confused with the JISC e-Learning Framework (eLF)!].

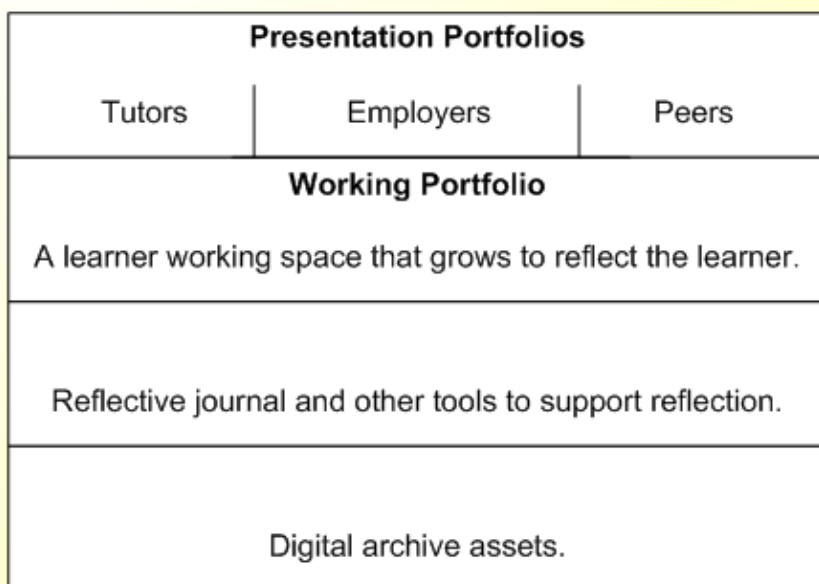
## Effective Learning Framework



## Layered Approach Model

In terms of e-portfolio functionality it may be useful to consider a layered view which shows the digital repository where learners can store and catalogue all their assets or artefacts, tools that can help them in the reflective process, a working portfolio that grows and grows to reflect on their learning, and a presentation layer than can be tailored to meet the requirements of different audiences for example verification, assessment, CPD and employment.

## Layered Approach



## Feedback, Assessment and Plagiarism

If you are supporting your student in their reflective processes, then you may decide that it is necessary to give feedback to the student – support and advice is included in our definition. This advice could take the form of formative or summative assessment and be built into a module or student support system. An example of summative use is in the first year of a course, a student may be required to attend a study skills module and the assessment is by portfolio.

An e-portfolio may also be used as a summative assessment vehicle for a particular module. As such, due to its personal nature, it is very suitable if you are looking for ways to minimise the possibility of collusion and plagiarism. Alastair Irons, Northumbria University, discussed this application in a presentation to the 'Plagiarism: Prevention, Practice and Policy' conference, 2005. This type of e-portfolio would become one asset in a more general, wider ranging e-portfolio. However you must bear in mind that learners are not very keen on being assessed (summatively) on their reflections – 'if this is my personal reflection, how can you give me 3 out of 5?' (David Tosh and Jeff Haywood of the [Scottish Centre for Research into On-Line Learning and Assessment \(SCROLLA\)](#), 'Students and e-portfolios – "What is in it for me?"' at [ALT-C 2005](#)). Another consideration is that of 'double counting' or self-plagiarism. It is good practice for your learners to reference their own work.

The JISC-funded [Plagiarism Advisory Service](#) gives guidance and information on plagiarism prevention and detection.

## Group Reflection

Although e-portfolios are usually considered to be a personal collection, you can introduce them to your students as a tool to support group reflection. An example of this use is on a Masters course in Engineering at the University of Strathclyde. The course tutors noticed that when students were asked to collaborate within groups, there were often problems in terms of time management and around the effectiveness of assigning roles to each of the students. The e-portfolio was used as a means by which all students and tutors could review the information and resources pertaining to the group project. The students designed the structure, with advice from the tutors.

## Student e-Portfolio



Whatever model or approach you take the heart and soul of an e-portfolio is reflection which is a crucial skill in facilitating a journey of lifelong learning. The learner will then perceive the e-portfolio as theirs and theirs to release and change as they wish. The focus should be on learning and developing the skills for learning, not on developing stand-alone webpages.

## Choosing an e-Portfolio System

There are four options regarding choice of software:

- your current VLE may have such a tool
- there are stand-alone commercial products available
- open source products are being produced by some JISC projects (examples are ePET and PETAL which is based on the Open Source Portfolio Initiative)
- or you may wish to develop the software yourself

If you choose a commercial product that is independent of your VLE you should check that the product complies with standards in order to enable interoperability with your VLE and other institutional systems.

Whatever route you take, we advise that you carry out an investigation and analysis before designing your system in order to ensure that your e-portfolio system meets all the requirements of all stakeholders. Generic guidance on system selection is available from our infoKit on System Selection. A useful reference report is Developing and Implementing a Methodology for Reviewing e-Portfolio Products, Ward and Richardson, The Centre for Recording Achievement.

A multi-disciplinary approach involving all stakeholders is essential to elicit your system requirements. If you fail to do this, then it is probable that your students and staff will not use the system to full advantage or that your system will not meet their requirements. Involving learners in the early stages will have benefits. For example, if they are digital natives then they may view systems and especially interfaces differently to you, also the learner should be at the centre of an e-portfolio and it is easy to forget this if there are no learners involved in the implementation. A clear set of requirements, including the goals for the project and pedagogic model of e-portfolio,

will go a long way to a successful implementation. Some current systems may not meet all of your requirements but as this is a rapidly changing area it is worth taking time in choosing your system. You may also have to accept that in a few years' time, there may be functionality available that was unanticipated.

There are some considerations that you may not immediately think of:

- **Learner Information Package (LIP):** 'LIP is designed to allow information about learners, including their progress to date and awards received, to be transferred between different software applications'. You may find it useful to download the [briefing paper](#).
- **The Bologna Agreement:** One aspect of this agreement is that 'in order to ensure student mobility through the transferability of their achievements, a credit system similar to ECTS shall be launched; credits shall also be obtainable in non-HE contexts such as lifelong learning'. You will need to take this agreement into account when writing your e-portfolio system requirements.  
Further information is available from <http://www.hefce.ac.uk/partners/world/bol/>.
- Also ministers of the 25 EU member States agreed to some principles relating to lifelong learning and these can be applied to portfolios. These principles were put into a [policy](#) covering individual entitlements, obligations of stakeholders, confidence and trust, credibility and legitimacy.

As with any new system, institutional support is vital, both managerial and functional. Integration of the e-portfolio into the academic programme is one method of sustaining its use; encouraging learners and tutors to view the e-portfolio as embedded, as a natural part of the learning process.

## Legal Issues

Andrew Charlesworth, Centre for IT and Law at Bristol, is leading the support given to the [JISC MLEs in Lifelong Learning Programme](#). He has grouped the issues under the following headings.

- ***Intellectual Property Rights (IPR)***

Original material that has been produced by your learners is covered by intellectual property rights, and so will be owned by the learner. This has implications for how your institution uses such material, for instance publication and showcasing.

- ***The Data Protection Act (DPA)***

The data held in the e-portfolio is subject to the DPA and it is important to check that your institutional notification does cover the new uses of the data. Your Data Controller will be able to help with this. If you do not have a person with that title there will be a named individual who has that responsibility within your institution.

This area is especially important when several institutions are working together and sending/receiving data from each other. In this instance you need to consider Joint Data Controller Agreements, Data Processor Agreements and Data Sharing Agreements.

- ***Ownership of the System***

This question may arise if the software has been produced by employees of the institution. In this case it is the institution that owns that software.

- **Stewardship**

This term relates to the assumption of responsibility for the proper management of learner data and arises in the question of 'who owns the e–portfolio?'

- **Guidance to Learners re: publishing and plagiarism, inflammatory/obscene material**

Your institution should consider publishing guidance to learners (and to staff) concerning publishing on the Web using the institution resources. Rules and sanctions need to cover such issues as inappropriate material, breach of copyright and breaches of intellectual property rights. With regard to this it is recommended that you carry out a risk assessment exercise. Further information is available from the [Risk Management infoKit](#).

## Ownership of the e–Portfolio

Concerns about exploitation centre around access rights and ownership of the portfolio. The consensus is that the learner owns their portfolio (although this is not the case in a legal sense) and controls the access rights. This means that physically storing a portfolio does not give rights to publish. We need to remember that reflection is very personal and it must be the decision of the students as to whether to publish (restricted publishing/blog type) such material. Charlesworth and Home in the [Legal Aspects of e–Portfolio Systems: A Short FAQ](#) suggest that the relationship of an institution to the learners' data should be that of 'stewardship' – the assumption of responsibility for the proper management of learner data.

Anyone using an e–portfolio system would need to abide by the regulations of the storage owner. At present this would probably be a school, college or university; although [Nottingham Passport](#) is local authority hosted and is recognised throughout Nottingham. When producing regulations and guidance you will need to take into account the changing relationship between learners, teacher, institution, government and European principles. Most probably individuals will choose different places for storage of their portfolio depending upon their current circumstances. These issues are discussed in [Matt Barton's blog article](#).

The adoption of standards such as UKLeaP (the UK specific implementation of the IMS LIP standard) ensures that the core of a portfolio will be easily transferred from provider to provider. A [JISC-funded project](#) undertaken by Nottingham University and partners showed that this is possible in practice. There are, however, some documents your student would not be able to amend, for example the student transcript.

You should consider all of the above, agree an institutional view, and include as part of your specification for a system. If you are working with other institutions to supporting lifelong learning then you will need intra institutional agreements and consider the Data Protection Act (see the section on legal issues).

Pedagogical and social issues were the theme for the [fifth meeting](#) of the CETIS Pedagogy Forum.

## Introducing an e–Portfolio System

When introducing e–portfolios into your institution or to your students you need to consider the 'what's in it for me?' question that will be asked by both staff and students. Both groups need to be

capable of using the software, perhaps in innovative ways, in order to get the most out of the system, and this does of course involve training.

They also need to be motivated to use the system – there has to be a reason for them to use it. The system itself needs to be easy to use, seamless from one section to another and aimed at the learner. Early feedback from learners using such systems does seem to be very positive, so the signs are good. To quote from a school student – 'you do more work, but it is less like lessons elsewhere in the school. This is more interesting, it is about yourself.'

To increase motivation, emphasise the process not the product (as the quote above shows). The extensive review carried out by Gough et al ([The Effectiveness of Personal Development Planning for Improving Student Learning, 2003](#)) showed that PDP can have a positive effect on learning and attainment, and student approaches to learning; you need to demonstrate/emphasise these to your learners in order for the benefits to be realised. Some of your students may not immediately recognise the value of PDP and so it may become a bit of a sales pitch in the early stages of use. Tutors will often engage with e-portfolios if they are using them themselves for PDP. Although research in this area is still emerging, there is a growing body of effective practice for you to draw upon. An example of implementation was given by Cochrane, Queensland University of Technology, at the [e-Portfolio Conference 2005](#). They ran a pilot and then trialled with 4,000 learners prior to institutional roll-out. Many staff were sceptical at first but as they saw others using the e-portfolio system they started to use it themselves. They managed the implementation using a project management approach and view this approach as crucial to the success. A good practice model to follow can be found in our [Project Management infoKit](#).

Your learners can be encouraged to store many different types of assets – from word documents to multimedia presentations. These can be used to evidence across modules or learning outcomes and so assist your learners to integrate their learning or take a holistic view of their learning. This can have storage space implications – sufficient space needs to be allocated so that learners do not become frustrated with a restricting system.

## Learner Perspectives

David Tosh and Jeff Haywood of [SCROLLA](#) presented '[Students and e-Portfolios – "What is in it for me?"](#)'. '[Students and e-Portfolios – "What is in it for me?"](#)' at [ALT-C 2005](#). This gave some very useful insights into the views of learners about e-portfolios. Some of the findings are given below.

### ***Promotion of the e-Portfolio:***

- Show good examples
- Highlight the benefits
- Demonstrate the benefits
- Show them yours
- Needs to be cool and helpful

### ***Highly Structured vs Open System***

- A system that is highly structured guides through all you need to know
- An open system gives more control over the whole process
- While the e-portfolio is a new experience, 80.5% prefer a highly structured system
- Post-use, 59.8% prefer a highly structured system

50% view the main barrier to using e-portfolios as the technology, the system.

Despite problems, many learners felt that they had demonstrated competences and had learned about reflection (nearly 80%).

## Summary and Further Resources

Learner feedback has demonstrated that there are clear benefits to be gained from using e-portfolios but the implementation needs to be clearly thought out and planned. The involvement of all stakeholders in the process will lead to a system that is easy to use and that learners and tutors want to use.

Institutional support is vital with clear policies and guidance being issued. When e-portfolios are integrated into the academic programme, learners see the relevance and benefits and are more easily able to make the links between different parts of their academic and work based studies.

e-Portfolios are still a relatively new tool for the majority of learners and staff. Practice and ideas are still in the infancy stage, but are growing. JISC infoNet would be pleased to receive your experiences relating to the implementation and use of e-portfolios.

The Centre for Recording Achievement has a useful list of resources at [http://www.recordingachievement.org/Useful\\_Links/links\\_display.asp?catid=5&offset=0](http://www.recordingachievement.org/Useful_Links/links_display.asp?catid=5&offset=0).

La Guardia Community College displays some student portfolios at [http://www.eportfolio.lagcc.cuny.edu/lagcc\\_student\\_eport.html](http://www.eportfolio.lagcc.cuny.edu/lagcc_student_eport.html).

PebblePAD is an example of an innovative digital portfolio tool.

The e-portfolio section of the e-Learning Framework website gives links to relevant specifications and Open Source implementations. You may also wish to contribute to the discussion area.

The European Institute for E-Learning (EIfEL) has a number of useful resources.

Finally, the REFLECT Initiative's Dr. Helen Barrett's material on electronic portfolios.

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