

ePortfolio challenges

For the 7th ePortfolio conference, and in order to give directions to our work towards our 2010 goal (*ePortfolio for all*), EifEL has decided to address a number of challenges to the ePortfolio community and beyond —many of the problems the ePortfolio community faces today will not be resolved if they are not addressed beyond the ePortfolio *silos*. The goal of these challenges is to move beyond the current state of ePortfolio development, in particular in the field of interoperability as interoperability is not just a technical issue, but a means to enable new practices and the emergence of truly lifelong and life wide ePortfolios.

Our main objective is to create the conditions for the emergence of *MultiPortfolio organisations* (one organisation can interact with many different ePortfolio platforms) and *MultiOrganisation ePortfolios* (have one ePortfolio to interact with many different institutions with their own platform).

1. Universal ePortfolio Repository —a unified view of all my assets

Context: Today, the digital assets used to create an ePortfolio can be hosted in many different systems managed by many different organisations.

Issue: How can we provide a unified view of all the assets belonging to one person, so she/he can seamlessly create ePortfolios without having to navigate through multiple sites? *How can I reunite my digital identity?*

Direction: Identity and access management (IAM) technologies, such as federation of identities and services need to be fully explored by the ePortfolio community.

NB: a *universal repository* is not equivalent to a *unique repository*; it can be universal while being distributed over a number of loosely connected and heterogeneous systems.

2. Universal Competency Identifiers —share competency definitions across systems

Context: A number of ePortfolio platforms, and other applications in the field of education, employment, accreditation and human resource use competency frameworks. Today, the dominant delivery format of competency frameworks is a PDF file, forcing each system to import or recreate them from scratch.

Issue: How can we share competency definitions across systems and applications? How can we elicit emerging competencies through interactive technologies?

Direction: The creation of a *competency wiki* providing shared, distributed, multilingual URIs (Unique Resource Identifiers) to competency definitions. The solution to unique resource identifiers for competency definition has already been discussed by Simon Grant ([Representing frameworks of skill and competence for interoperability](#)). We have the technology required, what is missing is the political impetus and commitment.

3. ePortfolio social —share assets, knowledge and processes across communities

Context: The idea of using social computing for ePortfolios is growing and a number of platforms have integrated such features. Nevertheless, the current implementation of social networking technology is mainly limited to connecting individuals as silos of information.

Issue: Let's imagine a group of 100 people belonging to the same community (company, school, etc.) among which 10 are writing their own CV. Can we design a technology that will make it possible that at the end of the process, each of the 100 people will have (part of) their own CV written? How can we automatically generate and update ePortfolios and CVs through social interaction?

Direction: Imagine that each time a person writes an elementary entry into their CV describing a professional experience, they have to name the people that shared the same experience; then for each person named, the entry is added to their 'CV', with the ability to edit it and share it back with the original author or create their own edited version of the entry. This way, each CV would be thread weaving a collective story. For the reader, being able to judge how an individual CV is connected to other stories, could even be an indicator of trustworthiness. The same reasoning could of course apply to ePortfolios.

4. ePortfolio semantic editors —make sense of what I write, connect, etc.

Context: In 2003, during the first international ePortfolio conference in Poitiers, Christopher Tan presented Knowledge Community, a platform scaffolding learners reflection through semantic annotation, i.e. identifying key words and labelling them with semantic value, e.g. *evidence, theory, example*, etc. Since then, not a single editor of ePortfolio tools has included any form of semantic annotation.

Issue: We need ePortfolio editors that scaffold reflective thinking, not just enrich text with bolds, italics and 'pink on purple' effects. We need proper, simple semantic editors, as semantic annotation is a way to structure reflection, connect ideas, facts and people.

Direction: RDFa editors provide the blueprint for ePortfolio editors that fully support the components of a reflective process. At minima, be able to tag parts of texts/images, not just the whole document.

5. ePortfolio Readers —read any ePortfolio through consistent and multiple views

Context: There are a number of ePortfolio platforms, each one with their own user interfaces and some people create ePortfolios without using any dedicated ePortfolio platform (e.g. content management system). And people want to be free to express their identity without being kept in the straightjacket of predefined templates.

Issue: How can we leave total freedom to ePortfolio author's creativity, while providing readers with their own view through a consistent navigational interface, e.g. evidence on the left, competency framework on the right, etc.?

Direction: We might have to define different readers, depending on the process being involved, so the same ePortfolio could have different views generated by different tools. Such tools could be used by ePortfolio authors as tools to verify that their ePortfolio is properly structured and contains all the relevant semantic information.

6. Open & Trusted Service Architecture

Context: Today each ePortfolio platform provides a limited number of services and adding new services require the development of idiosyncratic plug-ins,

when this possibility is offered.

Issue: How can we provide ePortfolio owners with an unlimited number of services without forcing service providers to develop multiple plug-ins for multiple applications? How can we trust the usage made by services of our personal data?

Direction: This is connected to the idea of Universal Repository, exploited and enriched by service providers. Schools, universities, employers, professional bodies etc. need to provide conversational systems through trusted web services —a technology currently under development by different initiatives, such as TAS³.

7. ePortfolio based performance support system —make the ePortfolio part of my work

Context: One of the current problems with ePortfolio adoption at the workplace is the fact that ePortfolios can be seen as something either nice to have or adding to the regular work. Moreover, the current level of integration of ePortfolios with other information systems is still low.

Issue: How can we make ePortfolio construction part of everyday activities? How can we demonstrate ePortfolio benefits through business benefits?

Direction: Use ePortfolio technology and methods to develop next generation electronic performance support systems, integrate reflection as part of routine work processes, so the ePortfolio is built through naturally occurring business activities.

8. ePortfolio discovery mechanism —find people, competencies, resources

Context: While there are a number of methods for learning resources discovery (c.f. the learning resources exchange (LRE) repository of European Schoolnet) there are not yet universal mechanism to discover ePortfolios on the Internet, each individual relying on ad-hoc services.

Issue: How can we easily find an ePortfolio or a resource contained in an ePortfolio?

Direction: OAI-PMH (Open Archives Initiative's Protocol for Metadata Harvesting) is a possible method to create large indexes of ePortfolios per organisation, sector or even territory. Other methods could be the publication of ePortfolios in trusted parties' indexes.

9. URIs as tags

Context: Tag is a popular form to connect things together. within an ePortfolio. Unfortunately the meaning of tags is context dependent, and different tags can share the same meaning.

Issue: How can we create tags that are not context dependent?

Direction: make tags RDF triplets: name (what is displayed as 'tag'); URI to definition (an hidden hypertext link); link type (is, is part of, etc.). NB: this is an extension of challenge #2. Two tags are close if they share the same URI and identical if they are identical triplets.

10. Universal Metadata

Context: ePortfolio construction is about connecting data together. Metadata are not just 'comments' about data, but links between all the data sharing the same metadata. If data are assimilated to neurones, metadata can be seen as the synapses connecting neurones together.

Issue: How can we enrich distributed data with 'personal/social metadata repositories

Direction: keep metadata repositories apart from data, on the model of social bookmarking.