Developing a Competence-based ePortfolio Management System

Jouni Huotari
Principal lecturer, Ph.D.
School of Information Technology
Jyväskylä University of Applied Sciences, Finland

KC 2008, London

Co-author: Annu Niskanen
Outline

• Background
• Project objectives; requirements for the ePMS
• Demo (our ePMS: ePofo)
• Experiences, results
• Conclusions
Project background

- Recognising prior learning and development of competencies has become increasingly important => demand for a system, which helps to manage, assess, and compare defined and gained competencies
- Overarching frameworks:
  - European Qualifications Framework (EQF) / Common European F. (CEF): for all kinds of qualifications in a higher education area
  - OECD’s DeSeCo Project (Definition and Selection of Competencies: Theoretical and Conceptual Foundations)
- We have been developing solutions for identifying, assessing, organising, describing, and documenting knowledge, skills, and attitudes since 2002
- In 2006, we started to develop ePortfolio management system in the Anturi project, which aims at developing methods and tools for identification and recognition of professional competencies
  - collaboration of two units of Jyväskylä University of Applied Sciences
    - Teacher Education College and
    - School of Information Technology
  - funded by the Ministry of Education and JUA
Concepts

• ePMS: ePortfolio Management System “to manage (produce, consume and exploit) elements of individual ePortfolios for a specific purpose - scaffolding learning, assessment, employment, competency management, organisational learning, knowledge management, etc.” (Ravet 2007)

• PLAR: Prior learning assessment and recognition

• AP(E)L: Accreditation/Assessment of Prior (Experiential) Learning

• VPL: Valuation & Validation of Prior Learning (Duvekot 2007)
Requirements for our ePMS

- Based on generic (or key) and subject-specific competencies
- Supports identification, assessment, recognition/accreditation, and development of prior learning
- Integration to our student register system: easy access to the documents and other files that provide information about student’s competencies
- Easy translation and modification
- Web-based; open source development environment
- Note: individual student is responsible to invest in personal growth; the ePMS is just to facilitate this development
Developing key competencies with our ePMS, “ePofo”

• From the eight key competencies for lifelong learning (set out by The European Reference Framework), ePofo supports especially digital competence and learning to learn
• ePofo helps students to perceive their learning needs + to process and analyse the development of their competencies
• Enables the recognition of students’ non-formal and informal learning
• Serves as personal tool for documentation, assessment, and development
• Helps curriculum development
Developing key competencies with our ePMS, “ePofo”

- Development and use of the ePofo has improved ICT and language skills of administrators, teachers, and students
- ePofo helps teachers and students to see how (key) competencies relate to courses => enables evaluation of quality, appropriateness and value of that information
- Development of ePofo has helped interacting in socially heterogeneous groups
  - teachers, students and administrators from different faculties learned to cooperate and understand each others views
  - Anturi-wiki: informing the process and decisions during the development
- Students take responsibility of their own learning and development process
  - students choose what proof to add to the ePofo
  - ePofo helps to understand the “big picture”, e.g. how the key and other competencies relate to the different courses and how much evidence there already exist about individual competencies
Open Source Portfolio (OSP) vs. ePofo

*) Or student coordinator
Demo

- Online version: http://epofo.labranet.jamk.fi/
  (currently only partially in English)
Categories for recognising prior non-formal and informal learning, such as working experience, degrees, courses, and hobbies.

Defining competences (skills and knowledge)

Competence descriptions: http://www.ncp.fi/ects/

You can search from subject-specific competencies or from key (= general) competencies.

Connecting student groups, courses, and competencies.
Making connections visible, e.g. how the competencies relate to courses.
Searching a student to be reviewed
Categories of non-formal and informal learning

Skills matrix show how much “proof” student has already added to the portfolio.
Summary of results

• The development of ePortfolio system in parallel with curriculum development has been a rewarding learning experience both for the faculty and the students.

• Teachers (content admins) define the competencies, skills and knowledge, student groups, and courses, and link all of those in such a way that a student gets to understand their relationships => clarifies the competence-based curriculum both for the teachers and students.

• The faculty members argue to understand both the basic concepts and the competencies required in the curriculum much better than before using the ePofo.
Summary of results

• The different matrices in the system provide understanding about the competencies and how much evidence there already is
• ePofo enables to student to get familiar with the required competencies and then add proof of their individual skills and qualifications
• ePofo combines characteristics of each of the typical portfolios: assessment, showcase, development, and reflective portfolio
• Enabling the use of an ePortfolio seems to reduce drop-outs (e.g. some students work abroad and they already have the needed competencies and they need a flexible way to proof their know-how)
Received feedback from the users and development group

- Students were an essential source of the development group
  - IT students have been developing the ePortfolio system
  - Students’ opinions were taken into account when defining new features
  - Students from four different subject areas formed the pilot user group and their comments were considered in improving our ePMS

- Encouraging comments from all three different user groups (administrators, teachers, and students): ePofo helps to understand, recognise and validate competencies

- According to the students’ feedback, it is technically quite easy (although time-consuming) to add proof about their knowledge and skills

- Students face the challenge how to express themselves clearly so that reviewers can evaluate what the student’s level of expertise is

- One specific problem emerged: how students can add confidential information to the ePMS
Conclusions and recommendations

- Versatile and voluntary student and teacher involvement during the development phase proved to be a good idea.
- ICT skills improved in all user groups.
- Idea of recognising prior learning of students and teachers is widely approved and understood.
- If an institute implements an ePMS whether it is commercial, proprietary, or open source, we strongly recommend simultaneous development of curriculum, competencies, and ePMS.
  - ensures that all of them are consistent.
  - helps achieving a common understanding.
Future directions

- Extended use of ePMS facilitates students (alumni) continue with their studies in our institute
  - personal development/study plans: current competence level & the aim <=> institutes offering
  - helps choosing the most appropriate students for continuing studies
  - helps finding skilful people => enables recruiting the best possible experts (e.g. for teaching or R&D projects)
- Visualisation: Individual, group, or institution level summary (colour maps, graphs etc.)
- Nation-wide or world-wide solution?