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Evaluating an ePortfolio System:
the Case of a Hybrid University Course

University of Zagreb
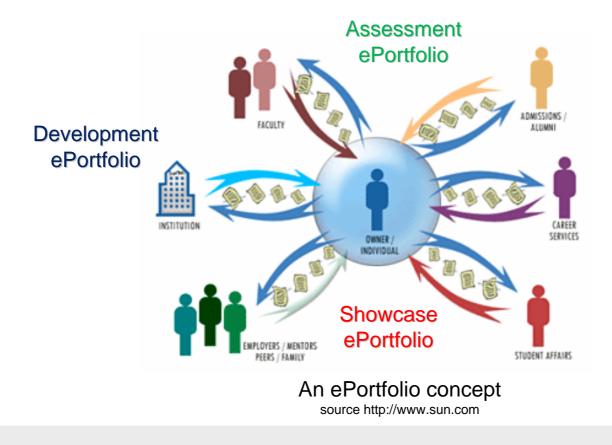Faculty of Organization and Informatics Varaždin (FOI)

Overview

- ePortfolio in general

- Choosing the software solution

- Implementation in the hybrid course

- Questionnaire development

- Results

- Students' impressions

ePortfolio in general

- **ePortfolio** = an electronic learning record which enables an individual to store, organize and present his/her work and accomplishments

- **Artifact** = a representative collection of someone's work which best shows his/her skills, competencies, and talents

An ePortfolio concept
source http://www.sun.com

Choosing the software solution

- **The first case of ePortfolio implementation at our college**

  => the recommendations for implementation and the preferred ePortfolio application <u>were not provided</u> at the institutional level

- **Main aspects of our decision problem related to the choice of ePortfolio application:**

  1. Recommendations for ePortfolio specification by IMS/GLC
     - very well defined
  2. Organizational/course requirements and possibilities
     - not so strict
     - it was not possible to predict and define them entirely
     - most constraints were related to organizational technical requirements
  3. Available ePortfolio applications
     - **Exabis** ePortfolio block
     - **ELGG** – open source social networking and social publishing platform
     - **Mahara** – open source ePortfolio and social networking software

Implementation in the hybrid course

- Course: **Security of Information Systems** @ FOI
- Winter semester of the academic year 2008/2009
- Number of students: 54

- **Two main goals:**

  1. **To choose which ePortfolio system would be the best for use at our college (Faculty of Organization and Informatics)**
     - ✓ An ePortfolio evaluation questionnaire was developed

  2. **To introduce the ePortfolio concept to students and educators**
     - ✓ We started with small-scale pilots to explore ePortfolio in a specific context and to train key players (early adopters)
     - ✓ We wanted to investigate what is needed to implement ePortfolio in a hybrid university course

Implementation in the hybrid course

- **Steps in ePortfolio implementation**:
    - A lecture was given to students as an introduction to the concept of ePortfolio, as well to ePortfolio as a tool which they would use in the course
    - In computer laboratory classes they were given a quick tutorial on the use of the ePortfolio systems Mahara and ELGG
    - An agenda with stages of ePortfolio implementation and its usage was given to students

The students had a full insight into the entire process; they knew what their assignments were and what would be expected from them at any moment

- The basic idea was to give the students some tasks for which they would have to use ePortfolio

Implementation in the hybrid course (<u>Agenda</u>)

Stage	Title and description
1	**Introduction to ePortfolio** 1. Introduction to the ePortfolio concept and systems; The need for an ePortfolio; Power of reflection 2. Logging into the systems and artefact upload: a. Upload course related artefacts: seminar, presentation, practical work b. Personal artefact upload (4-5 artefacts) -> "Best of me" section c. Tag the artefacts as follows: i. All course related artefacts are to be tagged with SIS08 ii. Tag all personal related artefacts arbitrarily 3. Fill in personal profile (including resume) and review at least 5 profiles of your peers
2	**Reflecting on ePortfolio** 1. Monitor progress, problem solving... 2. Reflect by answering the questions according to the template: a. What have I learned about the ePortfolio? b. What was the most interesting thing about using the ePortfolio so far? Explain why. c. What was less interesting in the ePortfolio? Why? d. Where can I apply the ePortfolio in the process of my Life Long Learning? 3. Split in groups. Make a view available only to peers from your group in which you will include the reflection made in Step 2. Use the ePortfolio systems to give feedback on reflections made by other peers within your group.
3	**Using ePortfolio to make course related reflections** 1. Monitor progress, problem solving... 2. Now the set of tasks has been created. Reflect on all 4 major units learned in laboratory exercises. For each of them, answer the following questions by using the given template: a. What have I learned in this unit? b. What was the most interesting part of this unit? Why? c. What was less interesting? Why? d. Where can I apply it in future?
4	**Analyzing the results and evaluating the systems** 1. Final conversation about experience and impressions. 2. Analyzing and scoring students' work in ePortfolio. 3. Evaluating the ePortfolio systems used during classes.

Questionnaire development

- A comprehensive <u>questionnaire</u> was created to enable the evaluation and comparison of both ePortfolio systems

- It was based on an extensive overview of ePortfolio literature, as well as on another questionnaire developed for the evaluation of on-line courses in our previous study

- Statements were mostly focused on:
  - **application features** such as application in general, organization of artefacts, file management, communication, security and privacy
  - **technical features**

- **Goal** => to create an initial form of an even more detailed ePortfolio evaluation survey

Questionnaire scales and sample items

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	GENERAL EVALUATION
1 2 3 4 5	I consider the work with ePortfiolio as useful.

	APPLICATION – usability and documentation
1 2 3 4 5	The work with the application is comfortable because it has a user-friendly interface.

	APPLICATION – organization of artifacts
1 2 3 4 5	It is possible to organize the artifacts in different ways (through views, presentations etc.).

	APPLICATION - management of digital repository
1 2 3 4 5	It is possible to associate keywords (tags) to individual files (artifacts).

	APPLICATION – communication
1 2 3 4 5	The application includes collaboration elements (blog, wiki etc.) which can be used to creatively cooperate with other users.

	APPLICATION – privacy and security
1 2 3 4 5	The login of users and transfer of user data (password and alike) is performed over a secure connection (https, ssl).

	APPLICATION - basic technical characteristics
1 2 3 4 5	The systems responds quickly at all times of use.

Results

ePortfolio evaluation scale	Reliability of scale in evaluation of each ePortfolio system*		Number of scale items	Average evaluation of the ePortfolio system with the scale	
	Mahara	ELGG		Mahara	ELGG
General evaluation	0,91	0,94	18	65,2	61,6
Usability & documentation	0,79	0,79	5	20,4	12,1
Organization of artifacts	0,79	0,85	8	35,0	24,9
Management of digital repository	0,85	0,88	11	41,3	29,7
Communication and collaboration	0,83	0,83	6	26,0	18,6
Privacy and security	0,60	0,78	7	28,2	20,0
Technical advancement	0,85	0,80	13	51,8	39,7

Table 1. Survey results

- **Both goals achieved:**
  - ✓ To choose which ePortfolio system would be the best for use at the Faculty
    - ➢ Average evaluation of the ePortfolio systems indicated that Mahara was superior
  - ✓ To introduce the ePortfolio concept to students and educators
    - ✓ Students were overwhelmed with this new tool
    - ✓ Intention to use Mahara in the future for other courses or at the college level

Students' impressions

- "So far I didn't know there were systems as good as ePortfolio. Those systems offer **a possibility to find a job** much faster and more easily**, to work on projects** and **maintain relationships with other peers** that use this system. In any case, I fully support educators in introducing ePortfolio to other students."

- "ePortfolio has enabled me **to record my qualifications** and **experience** during education. My own ePortfolio could **assist me in student mobility**, in **finding a right job** and **starting my career**. ePortfolio enables me to **introduce myself**, my competencies, skills and work to potential employers."

- "ePortfolio has a special purpose **in fulfilling personal goals**. Namely, when one has one's life goals written out in one place like in an ePortfolio, one will look at them more often and therefore ask oneself whether they are being fulfilled or not."

- "I see ePortfolio application **in lifelong learning** primarily as an opportunity **to express our soft skills** we didn't acquire in formal education but rather through working on projects or in teams or doing some other job … Furthermore I like the possibilities the ePortfolio offers, such as **the ability to benchmark with other peers**. In that way we can perceive our advantages and disadvantages to work on to and improve our own capabilities."

THANK YOU !!!

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