ePortfolio Implementation Strategy of FH JOANNEUM

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Abstract—**This paper describes the design of Portfolio and its application at FH JOANNEUM in a range of contexts where it will be used to make learning outcomes visible and to facilitate personal development planning. The flexibility of the ePortfolio architecture is appraised and the integration with virtual learning environments is discussed. Preliminary findings from evaluation studies (feedback / data obtained from students, graduates and staff evaluations and discussions, and relevant points arising from the round table experts´ discussion, Jan. 07) are summarised. Aspects of validity, reliability and manageability for the implementation of portfolios are deduced.**

*Index Terms*—**Community-building, ePortfolio, Knowledge management and learning**

I. INTRODUCTION

An ePortfolio, or digital Portfolio, can be seen as a type of learning record that provides actual evidence of achievement (is a collection of electronic evidence including electronic files such as Word and PDF files, images, multimedia, blog entries, Web links, etc.) assembled and managed by a user, usually online. ePortfolios are demonstrations of the user's abilities on the one hand, and, on the other hand, platforms for self-expression, which can be maintained dynamically over time. There are three main types of ePortfolios although they may be referred to using different terms: developmental (e.g., working), reflective (e.g., learning) and representational (e.g., showcase) [1]. A developmental ePortfolio is a record of things that the owner has done over a period of time, and may be directly tied to learner outcomes or rubrics. A reflective ePortfolio includes personal reflection on the content and what it means for the owner's development. A representational ePortfolio shows the owner's achievements in relation to particular work or developmental goals and is, therefore, selective. The three main types may be mixed to achieve different learning, personal or work-related outcomes with the ePortfolio owner usually being the person who determines access levels [2]. Figure 1 [3] shows an overview of information, contents, activities and interaction possibilities of ePortfolios.

A. ePortfolio tools

The infancy of the ePortfolio field is most evident in the limited toolset available for their creation. On a basic level, any tool that allows an individual to design and publish digital content could be used for ePortfolios [4].
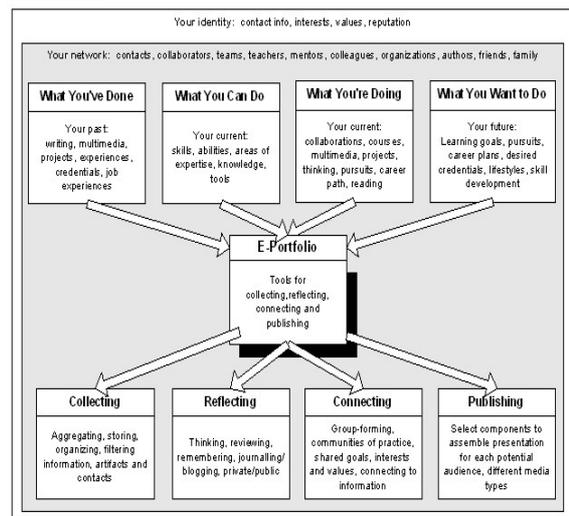
Figure 1. Overview of information, contents, activities and interaction of possibilities of ePortfolios

This need is currently being met through a variety of basic HTML editors, Web design tools, blogs and wikis, and content management systems. For example the Open Source Portfolio Initiative (OSPI) is a community of individuals and organizations collaborating on the development of the leading non-proprietary, open source electronic portfolio software.

II. EPORTFOLIO AT FH JOANNEUM

A. Justification and goals of the ePortfolio implementation at FH JOANNEUM

ePortfolios have an edge over the traditional, paper-based variety because there is a considerable increase in the range and quality of services that can be provided to individuals (students, teachers) and FH JOANNEUM. They can create different ePortfolios to represent different aspects of their life to fit the needs of different audiences or employers because it combines the integration of technologies, academic coursework, field experience and other important (non-academic) skills for professional advancement [5].

For students of FH JOANNEUM the implementation of ePortfolios focuses on two goals, the learning management and the professional management.

The learning management is quite important because students often perceive their courses as a series of disconnected pieces. Teachers may complain that their

students do not remember material taught in a previous course. The implementation of ePortfolios enables students in making the connections between their courses. Students move through their courses, they add performances and artifacts to their ePortfolio in each course, and by the end of their study, they have electronically collected multiple instances of their work so that they can easily decide on which additional course they will delve as well on which jobs they will focus after finishing their education. In other words, having students create an ePortfolio supports a holistic approach to learning which moves students beyond simply attaining a grade in a course to being able to clearly articulate what they have learned as well as to identify areas for improvement or further learning. This approach to learning implies that students will reflect on their own learning and by doing so will be able to better integrate their various learning experiences. ePortfolios can also aid teachers to follow the progress of their students which allows them to evaluate their own performance.

The professional management is the second goal which is focused by the ePortfolio implementation. ePortfolios highlight all of a student's skill sets. Although academics are extremely important, student's work experience and extra curricular activities are also highlighted, allowing the reader to understand the different dimensions of the student [6]. ePortfolios empower individuals to connect their formal education, work experience and extra curricular activities. ePortfolios provide students with the opportunity to articulate and connect their learning in many different ways. Most importantly, their ePortfolios will allow them to not only "show" but to demonstrate concretely what they know to the world which enable students to apply to professional practice and future jobs, showing these complete examples of their work; something much richer than the traditional CVs, particularly in times where the development of the electronic job market has seen a rise in the usage of e-portfolios (organizations can considerably cut costs by recruiting online and, due to the spread of the internet, are able to potentially find better job matches online than through conventional recruitment mediums) [7].

In the context of a knowledge society, where being information literate is critical, the portfolio can provide an opportunity to demonstrate one's ability to collect, organize, interpret and reflect on documents and sources of information. It is also a tool for continuing professional development, encouraging students to take responsibility for and demonstrate the results of their own learning [8]. Furthermore, an ePortfolio can serve as a tool for knowledge management and it enables students' document performance through advanced web and multimedia technologies.

B. Round table framework

During an internal Project of FH JOANNEUM polls, discussions and expert meetings according to the topic „Implementation of ePortfolio at FH JOANNEUM"have been organized. The project .coordinator was the ZML-Innovative Learning Scenarios, the partners were the Study Degrees: Health Management in Tourism and Social Work. The heads of department, students, teachers and graduates were involved in the discussion processes carried via several questionnaires and interviews designed by two FH JOANNEUM graduates. The topic was

analyzed in detail in order to develop an appropriate concept for the ePortfolio implementation at FH JOANNEUM. A round table was the "highlight" of the projects´ activities in January 2007.

The aim of the round table was to assess the benefits of the ePortfolio implementation at FH JOANNEUM, based on the above mentioned fields of studies. To optimize the accuracy of the results, several experts form various Austrian Universities were invited to present their know-how and expertise (see Table I). These experts highlighted best-practice examples of already established concepts which are in use at their universities.

TABLE I.
INVOLVED ROUND TABLE EXPERTS

Name	Institution
Bratengeyer Erwin	Department für Interaktive Medien und Bildungstechnologien, Donau Universität Krems
Ebner Martin	Zentraler Informatikdienst, TU Graz
Fritz Werner	Studiengang Informationsmanagement, FH JOANNEUM
Greller Wolfgang	E-Learning Manager, Alpen-Adria Universität Klagenfurt
Römmer-Nossek Brigitte	Projektzentrum Lehrentwicklung, Universität Wien
Wageneder Günther	Zentrum für Flexibles Lernen, Universität Salzburg

III. RESULTS

All methods used in this project (round table, questionnaires, interviews) delivered the similar results with regard to benefits and difficulties of an ePortfolio implementation. There is a significant diversity of expectations of the involved parties (head of department, teachers, students and graduates), which reflects their different points of view.

A. Implementation concept

Unfortunately, not even the experts seem to be capable of providing one concurring implementation concept, though such an opinion-leaders´ common concept would have been of great impact for the ePortfolio implementation at FH JOANNEUM. Very soon, during the round table it turns out that ePortfolios had been mistaken for discussion boards and Weblogs. An ePortfolio can contain functions like discussion board and Weblogs as a tool and not the other way round.

B. Job-search and job-orientation

The main benefit of the ePortfolio implementation at FH JOANNEUM supposes to be the facilitation of job-orientation and increased employment chances for FHJ graduates. Although this is a point all involved parties agreed upon, there is a high level of uncertainty among the students whether they can use the ePortfolio for a better Job-orientation.

The management of the FH JOANNEUM sees this procedure as a very effective tool for the marketing of graduates, in other words, it should mediate the appropriate jobs to appropriate people. Students particularly appreciate the advantages of data pools and the presentation of their whole competences. But even this major advantage is legally not quite approved since it is not completely in line with data security rights in the EU. The teachers view ePortfolio as a potential useful tool for Job-orientation, if it is accompanied by a teacher consultation. Since this kind of consultation had rarely been realized in the past (for the lack of human recourses) it remains unclear if the additional necessary manpower can be provided.

In terms of Job-search, graduates have developed and applied different strategies on their own so far. Beside usual methods (CVs) the benefits of informal communication had already been recognized and therefore, a Web based Platform is considered to be very appropriate by graduates.

C. Time management and usability

Due to potential lack of time among teachers and students, this topic seems to be very crucial. Also the round table experts agreed that ePortfolios would be time consuming particularly in the implementation period. To achieve a high level of acceptance, benefits should be evident for all involved parties. As far as students are concerned the benefits of ePortfolio are clearly recognized. Yet, the instructors cannot see clear benefits with regard to long term didactical effects and how they will fit in their time recourses. The integration of ePortfolio into the lectures was another crucial topic, which was discussed very controversial.

While students view the combination of ePortfolio and lessons as quite important and useful it is rejected by instructors. On the one hand the instructors are concerned that technical skills could gain more impact toward professional know-how. On the other hand, they are afraid this could mean a time consuming process already suffering from lack of time.

Students worry that there will be not enough time left to deal with their ePortfolios beside their regular duties at FH JOANNEUM. Additionally, they believe that some lectures have already associations with ePortfolios´ aims, which could be used without a significant (time) effort. Principally, these results were quite in line with the experiences of invited experts (Round Table), particularly in terms of ePortfolio integration into lectures. The expected objection and the reluctance of instructors were quite familiar to the experts. However, they stressed vehemently that the availability and accessibility of ePortfolios alone cannot achieve the expected outcomes.

The above mentioned statements with regard to time management depend very closely on usability as well (design and functionalities of the ePortfolio tool).

D. Data security

Since students want to take advantage of all options of data polling (assessment, certificates, etc), the legal aspects of data security have to be considered with attention. Students should be able to determine which of their personal data should be accessible for the public via Internet, in order to not jeopardize the success of the

project. During the round table discussion, experts have proposed an assessment for students and graduates with regard to data publishing (to sensitize them to reflect about which data should be accessible for everybody).

E. Tools

There is a variety of tools which can be used for ePortfolios´ development. They range from Discussion Boards and Chats to own Profile-Creation and document up-und downloads. All of these tools are required by students. By this means, brainstorming and professional discussions primarily are targeted. But it includes also private and personal contacts among students and graduates. For this purpose, a platform including plenty of tools seems to be appropriate. Experts mentioned ELGG, Moodle and similar concepts. Students and graduates again express the wish to link the ePortfolio (Platform) with job stock market and some kind of unofficial black board. A discussion board for information exchange in terms of vacant job positions or internship positions was quite often required. It was also asked to use such a discussion board for information exchange with instructors.

IV. FH JOANNEUM ePortfolio Implementation Strategy

Based on the results of the ePortfolio project, two pillars are necessary for the successful ePortfolio implementation at FH JOANNEUM. A Community of Practice for students and graduates should be developed and within this community tools for personal ePortfolios should be provided.

A. Community platform for students and graduates

The implementation of a community platform for students and graduates of the Study Degrees "Health Management in Tourism" and "Social Work" is foreseen. The community platform should contain communication tools as a blackboard (announcement of events and news regarding to jobs, vocational training, etc.), discussion boards, Weblogs and chat rooms. The personal space for users should provide a documentation up- and download (personal documentation like certifications, projects, etc.) as well as the possibility to create personal folders which can be edited easily. Furthermore, the platform should contain a virtual space for Self-presentation (CV, Foto, Contact, etc.) and a virtual space for teamwork (group rooms, communication tools, etc.).

The community platform will offer an internal and external information space. The internal information space, provided by the study field, will offer information like vacant job positions, internship positions, etc. The external information space, called Job stock market, will provide several links to job stock markets.

B. ePortfolio tool for students and graduates

The Community Platform and the ePortfolio Tool will be integrated in one system, which should provide several advantages as mentioned in continuation. The students´ dates will be available also when they have finished their study (with the corresponding author rights), which is one of the most important advantages. Another advantage consists in the more efficient hosting and financial aspects, because the development of one system is quite

cheaper and easier to handle than the development of two parallel systems. By the same time, the usability and accessibility aspects will be improved because data and information are accessible in one system.

Regarding to the ePortfolio Tool for Job-Search and Job-Orientation, it's necessary, that the tool achieves all detected crucial users´ requirements. The design and implementation of the tool should be evaluated by all interested parties, in order to assure a high quality output. Because of the lack of experiences, the development of the ePortfolio tool seems to be more difficult than the performance of the Community Platform, although, the added value and impact [9] provided by the ePortfolio tool to students and graduates should be quite higher.

This added value should be provided on the one hand through the different profiles of competencies for students and graduates, which is in other words a medium to collect and organize artefacts that document their performance (readily accessible electronic format online).

On the other hand, the ePortfolio tool will provide several opportunities for students and graduates as the documentation of their skills in different learning contexts (archive of authentic/diverse evidence) as well as the opportunity for reflection in different learning contexts to integrate learning experiences (help students and graduates in articulate and evaluate what they have learned). Furthermore, the presentation of different views of learning is another opportunity, which offers a more holistic approach to learning.

The integration of ePortfolio into the lectures will be important to achieve the expected outcomes. Following aspects [10] should convince instructors and head of departments to integrate ePortfolio into lectures:

From a pedagogical point of view portfolios are a way to teach students generic ("soft-skills") and multidisciplinary competencies and to motivate them to have broader perspectives. Managing the own learning process moves students toward a more well-rounded and holistic understanding of learning in a wide range of competencies and learning contexts. In the context of assessment portfolios can be used to track growth (change) over time and discover opportunities for development.

C. Next steps taken by ZML – Innovative Learning Scenarios

In regard to the implementation of the Community Platform and the ePortfolio concept, the partnership building between ZML and interested FHJ study fields, in order to assure financial and human resources, will be the first step. At the same time, a network building and information exchange between ePortfolio project team and the ePortfolio team of fnm-austria [11] should start. In a second step, the network building between ePortfolio project team, graduates, students, instructors and head of departments will by strengthened.

Mentioned activities are preconditions to assure the development of a tangible implementation concept. The usability and effectiveness evaluation of several tools will be the third step in order to develop a technical specification catalogue. The last steps consist in the implementation, evaluation and consolidation of the ePortfolio Concept.

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