

LEARNING ePORTFOLIO DEPLOYMENT IN SOCIAL NETWORK NING

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The aim at this paper is to describe and analyze the experience gained in deployment of learning ePortfolio using Web 2.0 tools and services in a social-oriented network like Ning. The functionalities of social software for learning enhancement and for facilitating and stimulating the active participation and communication of each learner are explored. The prototype of learning ePortfolio is provided and discussed in point of view of the potential to change learning, communication and publishing practices in engineering education.

Keywords: ePortfolio, deployment, Web 2.0, social software, Ning

1. INTRODUCTION

The use of ePortfolios in higher education worldwide has increased dramatically over the last years [1], [2], [3], because of three factors: (1) the dynamics of functioning in a knowledge economy, where a learner expresses his/her knowledge effectively through artifacts, examples of work, progression of growth, and instructor comments; (2) the changing nature of learning – applying of new models to the traditional like as learning in communities, on the job, and from personal knowledge networks; (3) and the changing needs of the learner that are dictated from the social impact of technology [4].

The best practices and implementation approaches lead to different kinds of ePortfolios: assessment ePortfolio, presentation ePortfolio, learning ePortfolio, personal development ePortfolios, multiple owner ePortfolios, working ePortfolios [5] and there are a wide range of ePortfolio definitions. In most cases the ePortfolio is understood as a purposeful collection of artifacts including demonstrations, resources, and accomplishments that represent an individual, group, or institution. It illustrates actors' efforts, progress, reflections and achievement. ePortfolio uses digital technologies, that support collecting and organizing artifacts in many media types [6], [7]. Also, the ePortfolio is examined not only as a product and progression, but as a process that encourages the learner to review, reflect, collaborate and share on what they have done, experienced or learnt.

In this paper the focus is on learning ePortfolio the main functions of which are to: document, guide, and advance learning over time. It often has a prominent reflective component and may be used to promote meta-cognition, to plan learning, or for the integration of diverse learning experiences [5].

Nowadays, the learners often use social networks with services and tools for content and knowledge discovering, creation and sharing. Social software has been one of the driving forces behind the adoption of ePortfolios for learners that provides an ongoing record of learning activities. A list of Web 2.0 technologies that could be

used in online portfolio development are presented in [8]. Designing ePortfolio 2.0, based on Web 2.0 tools and services for enhancing users' learning is presented in [9].

This paper draws on the experience of implementing the learning ePortfolio using social software. Social network Ning is used as bases and it extends with external services and tools. The potential of the developed ePortfolio prototype to enhance students' learning is presented.

2. NEED ANALYSIS AND REQUIREMENT DEFINITION

2.1 ePortfolio Functional Characteristics

The ePortfolio software products are classified in five categories: commercial ePortfolio software systems, open source software products, learning management systems with ePortfolio functions, content management systems with ePortfolio functions, and integrated systems and software families. Recently, a new group of ePortfolio 2.0 systems, based on Web 2.0 technologies are emerged. The functional requirement of ePortfolio products and stages of their development, according to G. Simens [4] are in 5 levels: Level 1 includes simple web sites, and also blog, wiki; Level 2 covers dynamic, database-supported ePortfolio systems, Level 3: institutional systems; Level 4: Integrated ePortfolio systems into the process of instruction and assessment; Level 5: Cross-institution solutions, implemented on the basis of industrial standards (Figure 1).

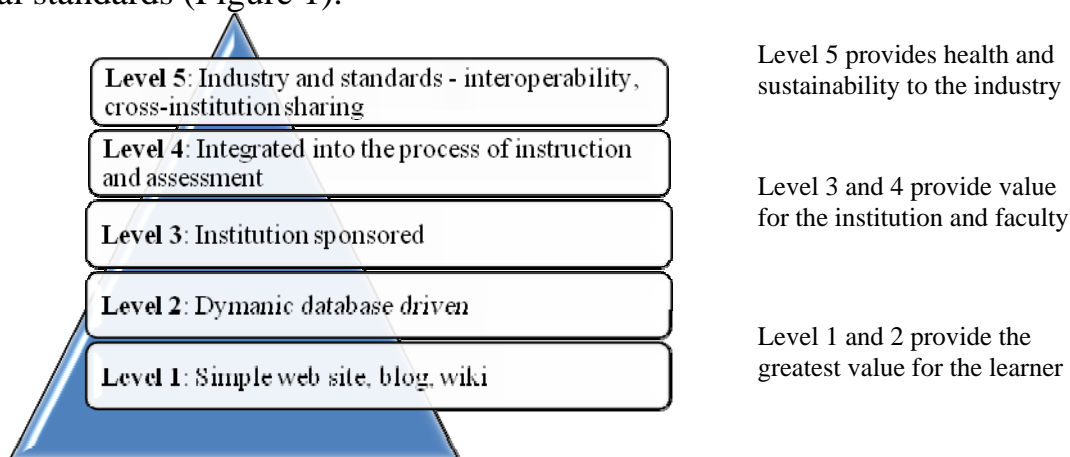


Fig. 1. ePortfolio Products and Stages

The main functions that classify one system as an ePortfolio product includes: free text input: annotations, online content editing, internal/external links, upload documents; publication: access control, types, publish to web, commenting, syndicate, internal/external communication, searching; organize: collecting space/document management, categorization, selection, tracking; analysis tools: tracking, comparing, assessment; templates: advice, reflection, evaluation, presentation, modification of templates by user, assessment [2]. The functions such as flexibility and usability; knowledge capturing and sharing; community-wide reflection and communication; and knowledge collaboration are added to ePortfolio 2.0 systems.

The potential for ePortfolio to support learning derives from the many processes that it enables, including: recording and storing resources for learning, knowledge and evidence, reflecting on particular items or on a bank of evidence created over time, giving and receiving feedback, collaborating with other learners, educators and experts, selecting evidence for presentation, communicating learning outcomes and personal identities to a range of audiences.

2.2 Social Software Usage

Social software is increasingly being used in education through applications such as blog, wiki, audio/video/podcast/image creation and sharing, social bookmarking, RSS syndication, start pages, social networks [10], [11], [12]. It adopts in the learning process and it can be used for learners, groups and course ePortfolio deployment. One example of ePortfolio implementation via Google applications is presented in [13]. It shows the possibilities of social software to support creation of social learning ePortfolios that reflect the collaborative learning activities as learners can build and extend their learning networks to capture both the formal and informal learning experience.

2.3 Learning Needs Analysis

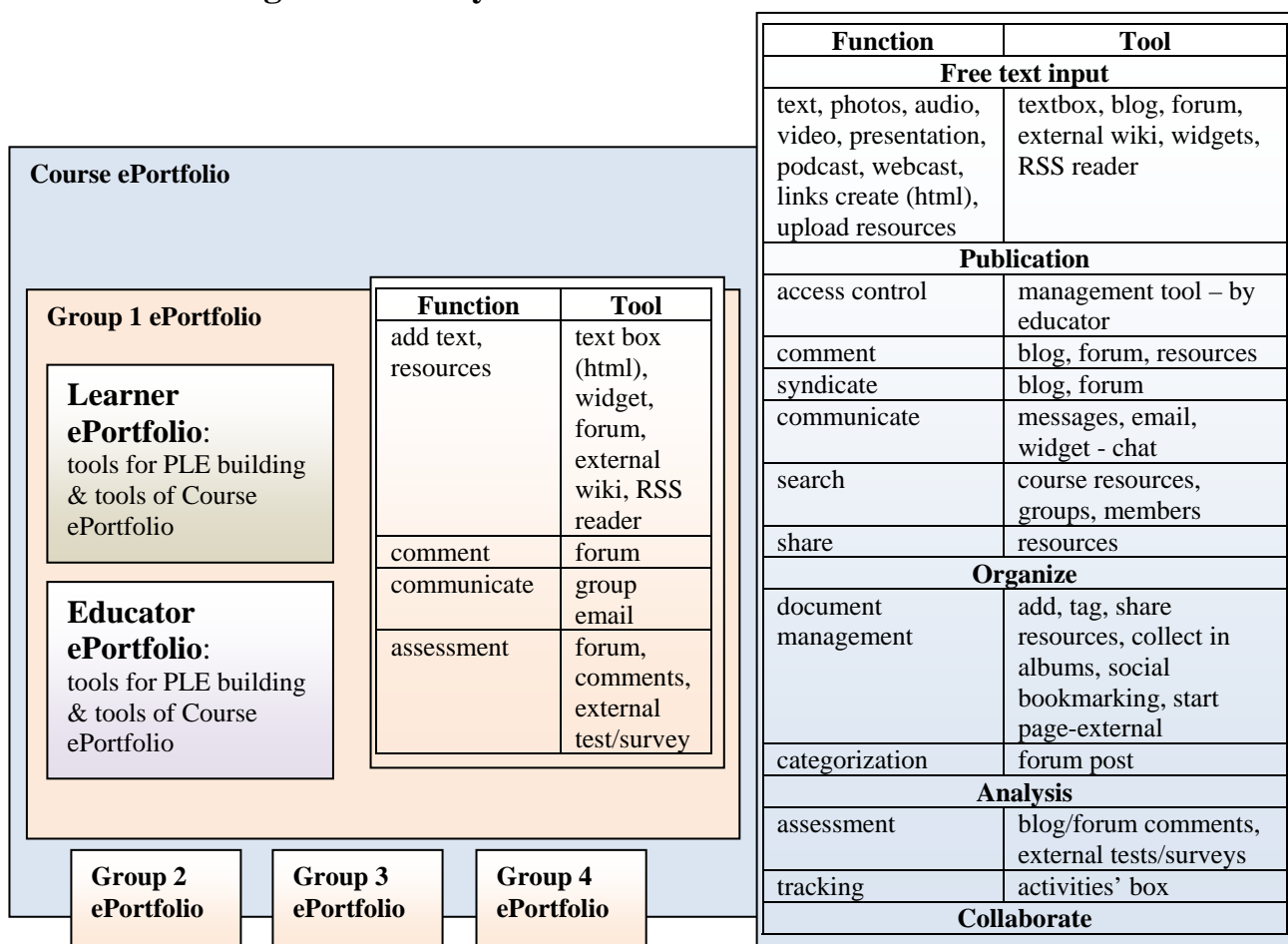


Fig. 2. Learning ePortfolio Model

The course of Internet Technologies is a mandatory course in the curriculum of the students' bachelor degree and its main aim is to give them knowledge about

present internet solutions and technologies in the areas of: networks, protocols, commonly used applications, security and skills for web site design and development.

The examination of the theoretical analysis and best practices of ePortfolios, social software solutions for learning and new kind of students closely related to recent internet technologies lead to requirements definition of an ePortfolio model (Figure 2) that is integrated in the learning process for this course:

- functional – possibilities for learning resources collection, information and knowledge management and sharing; fast reflecting; PLE building; synchronous and asynchronous communication and collaboration: educator-student, student-student, educator-groups, student-groups
- operational – deployment of a level 2 ePortfolio – web sites with dynamic database for course, groups and individual students ePortfolios management
- technological – a free hosted web-based platform, flexible and extendable environment
- pedagogical – blended learning method: face-to-face practices and lectures with combination of eLearning 2.0.

3. INTEGRATION OF ELEARNING 2.0 AND EPORTFOLIO 2.0 CHARACTERISTICS

eLearning 2.0 is based on Web 2.0 technologies, it allows students to create content, collaborate with peers to form a learning network with distribution of content creation and responsibilities and it utilizes various tools including online references, courseware, knowledge management, collaboration and search [14]. According to Downs eLearning 2.0 comes not from the design of learning content but in how it is used - can be used as the basis for learning activities rather than the conduit for learning content [15].

The built Learning ePortfolio uses eLearning 2.0 characteristics such as: creativity stimulation at individual artifact creation, activating participation and communication, social collaboration and interactions. The characteristics of eLearning 2.0 and its benefits for ePortfolio creation are summarized in Table 1.

4. EPORTFOLIO PROTOTYPING

To demonstrate the deployment of the proposed learning ePortfolio 2.0 model and to test the functionality, a system prototype has been developed that focuses on personal creativity and reflections, collaborative activities, communicative interactions, and the nearest users connections supported by Web 2.0 technologies.

The main components of the developed prototype are based on the Ning social software, Delicious social bookmarking network, pbWiki for collaborative writing and idea exchanging, Sladeshare presentation sharing, GoDaddy quiz creation, because of its free hosting, easy use, efficient and flexible administration and rich functionality. The screenshots of the ePortfolio prototype is presented on Figure 3 and they show (1) The Main page with member presentation, activities list, welcome interactivity map, course blog posts and forum discussions, live traffic box, PPT

presentations, links to external applications, video and pictures slideshow, RSS subscription; (2) Student's PLE; (3) Collaboration via pbWiki system.

Table 1

eLearning 2.0		ePortfolio 2.0
Architecture of participation – the learner participates in processes of content and knowledge creation, sharing, remixing, repurposing, dissemination	→	<i>Active participation</i> in the process of ePortfolio building is pushed from easy for usage web-based, free hosted tools and services with a wide range of functionality and possibilities for different learners' roles
Learning in Web platform - Free hosted eLearning 2.0 systems, social networks, start pages, blogs, wikis; free and easy access to services		
Bring web content to portable devices	→	<i>Varied access</i> – various ways for ePortfolio access increase the possibilities for more activities and interactions from any location and at any time
Folksonomy (social bookmarking) - collaborative categorization of learning resources - bottom-up, learner-driven, peer learning, many-to-many methods	→	<i>Support social learning:</i> ePortfolio reflects the collaborative learning journey as learners can build and extend their learning networks to capture both the formal and informal learning experience
Social software – wisdom of crowd - contribution is encouraged. Network effects - increase in value of a service in which there is some form of interaction with others		<i>Assess Transparently</i> – ePortfolio allows reflection, comments and assessment to be transparently
Long tail and snowflakes effects are related to personalization	→	<i>Empower learners</i> – Web 2.0 interface components help to engage learners. The ability to create and publish interactive resources within the ePortfolio gives learners ultimate control over their learning journey. <i>Stimulate individual creativity</i> in artifacts' production and management
RSS, mashup allows learner dynamic organization of right learning resources, individual creativity	→	<i>Integrate Seamlessly</i> – When combined or create Web 2.0 applications, tools and services, ePortfolio offers learners a consistent and engaging learning experience.
Software as a service, the perpetual beta – activate innovations in learning and the learner can be in the role of a software co-developer		
Loosely coupled systems – flexible, personalized, adaptive learning	→	<i>Flexibility Adjustment</i> – ePortfolio goes where ever learning takes learners easy to use, educator and learners build course and groups ePortfolio while learners establish a personal repository of learning artifacts collected along their learning path.
Some rights reserved – remixible, reusable resources	→	<i>Author recognition</i> - The learner artifacts are visible for all participants in the network, but they can be used for creating learning experience in different context.

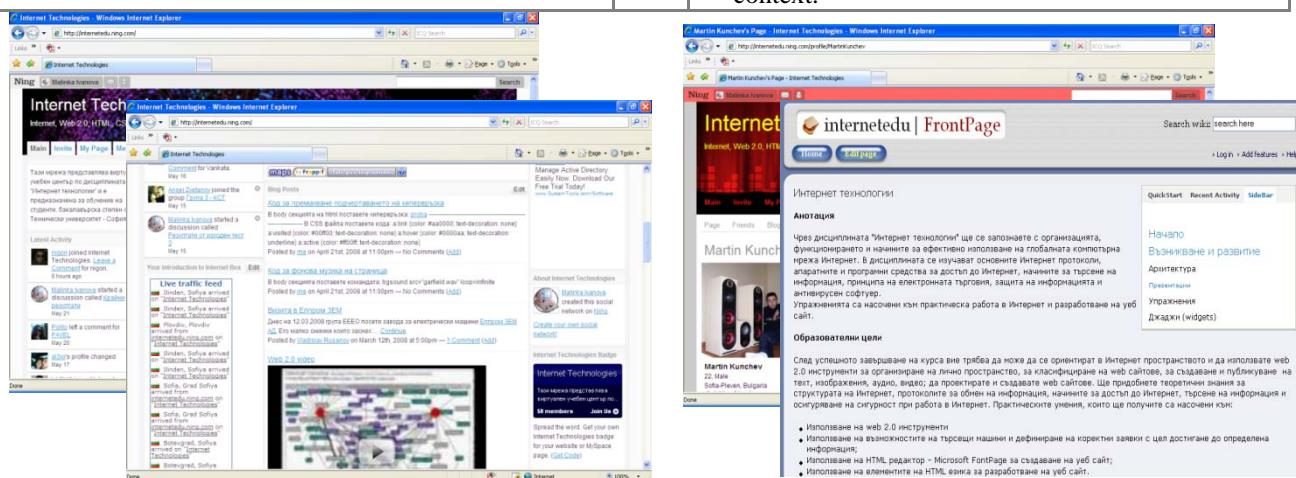


Fig. 3. Screenshots of ePortfolio Prototype

5. CONCLUSION

In this paper a developed model of learning ePortfolio, including course, groups and individual learners' ePortfolios is proposed. Its flexibility and scalability are tested via a created prototype. Learners' goals and achievements are linked to an active social network of their peers and educators enabling learning beyond the boundaries of the classroom. The social network Ning is used for ePortfolio deployment, because it proposes a mashup space for learners to perform their activities. The findings show that used social software supports learners not only to acquire knowledge and information, but to create the artifacts and develop skills necessary to engage with social and technical change, and to prepare them to be self-organized life-long learners.

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