e-Portfolios for Learning and Development: without constant internet or electrical grid access.

Introduction

This short presentation and discussion session is speculative and explores the likely benefits and requirements of an e-portfolio system that is intended to be completely under the control of the individuals using it and capable of operating without a constant internet connection or power supply. Drawing on recent experience and thinking in the areas of e-Portfolios, Personal Development Planning (PDP), Personal Learning Environments (PLEs) and current developments in e-learning in general, the paper discusses some of the educational, social and economic factors affecting such an approach. An initial description is undertaken of some possible user scenarios and benefits realization in both the developed and developing worlds. From this basis, an outline of system requirements and directions for future development and enquiry are proposed.

It's worth stating at the outset that this short presentation is discussing the use and applications of e-Portfolios in the widest sense throughout all aspects of a person's life, although much of the recent discussions in this area have been oriented, understandably towards the Higher Education (HE) sector

Some critical reflections on PDP and technology

The development of Personal Development Planning (PDP) in the UK can be traced back to the Dearing Review of Higher Education (HE) in 1997 (Buckley, 2009). Like many aspects of education the development of PDP has been strongly influenced by political forces, notably the currently dominant neo-liberal agenda (Harvey, 2007). As such, it has been critiqued (Barnet, 2003; Bowskill 2009) for an over-emphasis on the individual and employability as well as a bureaucratic concentration on record keeping for government agencies. But, it is important to note these criticisms do not target the general ideas behind PDP (planning, reflection, analysis and evaluation etc.) but rather the manner of implementation and the ultimate purposes envisaged. This paper does not seek to stress one particular aspect of e-portfolio use but rather acknowledges that such tools can be used for a number of different purposes including enhancing the economic opportunities of an individual, supporting reflective self-development, as well as personal information management and that these are not mutually exclusive. As Buckley (2009) observes, the introduction of technology in the form of e-portfolios also provides a way to effectively merge record keeping with PDP activities. This can in turn provide a basis both for more educationally valid applications that acknowledge diversity and support further research into PDP to guide further developments. The ideas developed in this paper are intended to support the widest possible range of applications.

Technology in education has always been subject to a range of socio-economic influences. In the context of this paper the development of technical educational interoperability standards is particularly relevant to a discussion of e-portfolios. Harvey (2007) notes a prevailing belief that there can be a technological fix for any problem and that products and solutions are often developed for problems that do not yet exist. In education one of the materialisations of this tendency is in the proposition that standards and techniques developed in the military and aviation sectors can be adopted in the

mainstream public education system (Friesen, 2004a). But, despite the large amounts of money spent by public bodies in this area, Friesen (2004b) notes that there has not been wide adoption. In retrospect it is not surprising that standards and approaches that developed in the last century and originating in the military and industrial sectors have not taken root in mainstream public education systems; where teaching and learning is, inevitably, a far more messy, less controlled and contingent enterprise. Wilson (2009), who has been involved closely in the standardisation development process, reflects on this state of affairs and suggests that that there is a need for a more lightweight approach such as epitomised in web standards. Now, we might be starting to see the emergence of what might be more promising uses of technical standards that originate in community based efforts such as the UK based 'Exchange of Course Related Information' (XCRI, 2009) and 'LEAP' (2009) (for e-Portfolio work). The challenge here might be described as the difference between being broad enough to be generally useful as opposed to being so narrowly precise as to render a technical standard useless in practice.

User-Centred

The growth of a more educationally engaged and pragmatic approach to e-learning is also based in the experience of recent history, which suggests initiatives that place too great a reliance on technical innovation often fail. Two UK examples are the e-University, which collapsed in 2004 with large debts and the less publicised case of the failure of the American Branch of the Open University. In contrast, the continuing activities of the American for-profit Phoenix online university were marked by simplicity on the technical side (Oliver, 2006), with the use of the Microsoft email suite as the main delivery medium – the rationale being that this is familiar and free/low-cost to end users and very economical for the institution.

In parallel to this has grown an interest in providing technology that supports a wider range of pedagogic contexts than the traditional model of a student in a face-to-face institutional classroom. This has been in response to the growing demand for flexible lifelong learning opportunities, encouraged by policy developments. To support this the concept of a 'personal learning environment' (PLE) has developed (Wikipedia, 2009), as van Harmelin (2006) observes a PLE is a concept rather than any particular technology and its defining feature is that it should be student-centric rather than institution-centric. This also has obvious applications to the developing world where access to traditional instruction may be in short supply for a number of reasons. A good description of this approach as applied to e-Portfolios has been developed in the UK by Pebblepad (2009), an e-portfolio company:

"It is a personal repository; a personal journal; a feedback and collaboration system; and a digital theatre - where the audience is by invitation only"

Grant (2009), who is also involved in the community-based LEAP interoperability development, delivers a wide-ranging review of e-portfolios from the point of view of the person who is the subject of a portfolio with a strong emphasis on the ethical and social dimensions. In addition he provides a very useful list of purposes and functions that should inform the development of any e-portfolio system.

The Limits of Web 2.0

At the moment many progressive educational technology projects are strongly influenced by the Web 2.O business model developed by O'Reilly (2005) and other internet business leaders as a response to the dot com crash. This economic model relies on users visiting and 'inhabiting' web-services such as Facebook and Twitter, part of a new socio-economic model described as the 'socialisation of production' by Hardt and Negri (2001). This is fine as an innovative internet trading model but when transferred to education it also tends to revolve around institutions and organisations that have the resources to support these services (institution-centric). Current e-portfolio solutions are

largely aimed at students within institutional contexts, where moving information between such official data 'silos' is seen as the next big technical challenge. But little seems to be envisaged for students / people on the 'outside' – where most will be over the course of their lifetime. There are also scenarios where the 'always connected' model of Web 2.0 breaks down in both the developed and developing world, such as; non existing or intermittent internet access, limited electricity supplies, inability to access the internet due to work restrictions (for example), costs (equipment, online access, electricity, time), no institutional or organisational affiliation, reluctance to trust important data to a remote service (reliability, privacy, politics, religion etc.). These are all areas where it would be useful to have further information about.

Plugging the Gap in Web 2.0 – Guiding Principles
So what might be some general guiding principles for developing a solution to plug this gap? Here is a starter list:
- Control is completely with the user and no one else
- It will work offline and online
- Be pragmatic – go for a simple range of services that will be used (the 80/20 rule)
- Where something exists (blogs, wikis etc) use it – don't reinvent the wheel, think about plugging gaps to make things work
- Be agnostic about technology and don't lock your self into commercial or open source solutions – use what's best and most cost effective overall
- Use existing well-established web standards first, wait for ed-tech interoperability standards to become adopted then build them in on the basis of utility
- free at the point of use – there may also be business opportunities so don't discount them beforehand

initial Requirements
Based on the forgoing an initial set of requirements might include:
- Tools to construct a narrative (text, images, audio, video)
- Tools to manage digital resources
- The ability to upload/interact with web 2.0 services like blogs when connected to the web (like desktop clients for blogs)
- The ability to have an optional web space for
    - Saving or backing/up content – the assets and artefacts that the person considers useful and important
    - Being able to delete or modify any content
    - To deliver access to parts of the space to selected individuals for limited periods of time
    - Credits from an awarding authority to the person such as transcripts, grades, official certificates, awards, and licences etc
    - Social currency - value given to the person by who they know, who they connect to. Letters of recommendation is the traditional manifestation of this, online social network "friends" is the modern equivalent
    - Maintaining a journal(s) that can also utilise the other parts of the system
- Incorporate common Personal Information Management (PIM) tools (Grant, 2009)
- Be able to migrate user generated content out in a range of useful formats
- As this is a system, with a number of components, that is designed to operate without a constant web connection it would ideally have the following characteristics
    - Operate on all the main computer platforms (Windows, Linux, Mac)
    - Have a web client option
    - Operate as a client on most medium/high-end smart phones
- There would need to be a website for updates, training materials and community activity and help
- The source code should be open to allow for customisation to meet local conditions and requirements

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- Ideally the tools would come with some basic 'hard wired' help materials on information and media literacy, legal issues, and PDP etc. that could also be updated and extended via the website
- Be capable of being localised into a wide range of languages
- Be easy to use

Benefits

As Hardt and Negri (2001) have observed the rapid globalising effects of neo-liberal economics with attendant mass migrations has blurred the physical, economic and social divisions between what was previous referred to as the first and third worlds. The proposals outlined here recognise this and would potentially benefit a very wide range of people from the busy UK professional maintaining a reflective journal while offline to a Chinese villager recording the types of drugs prescribed by visiting doctors, to a prospective African student uploading a portfolio of work for assessment by a learning provider. The current phase of global economic development is characterised by the central role that the creation, management and sharing of information plays in both the developing and developed world (Hardt and Negri 2001; Grant 2009). Providing people with the tools and knowledge to help them manage their own personal information as proposed in this presentation would play an important role in individual and societal learning and development.

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