A portfolio-based approach to developing wiki and blog capabilities – from individuals to institution, one ‘size’ does not fit all

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Abstract

This short paper reviews and reports on the University of Leicester (UoL) progress in developing institutional capabilities for wiki/blog deployment, as at Autumn 2007. It provides brief illustrations of initiatives in a portfolio-based approach addressing different areas of application in different academic departments. The preliminary results of early operational research are outlined, together with vectors for potential future developments.

The Wider Context

The challenge of choice for institutional learning technology services arguably expands, rather than shrinks, with experience and knowledge. Making the ‘right’ technology decision to meet the needs of the present and to be robust with respect to the future is complicated by, inter alia, the diversity and constantly changing nature of community and stakeholder needs and interests and in the increasing technological options and choices available.

This challenge is evident particularly in responding to and in exploiting developments in social software, such as wikis and blogs, and the accompanying pressures from a technoliterate and demanding ‘clientele’. These issues are now being discussed widely in software, learning and educational published contexts (for example, in Bryant, 2006; Owen et al, 2006; Horizon, 2007; and Sreebny, 2007).

This situation is highlighted by three inter-related trends in the wider computing landscape. Firstly, in techno-economic terms, by the ‘commodification’ of processing, storage and display devices, as the separate evolutionary pathways move into their individual maturity stages. These trends provide a resultant lowering of initial purchase and ongoing support costs for both organisational or institutional and individual users.

Second, in discrete technology terms, by the proliferation in and mass adoption of mobile devices, the rapid growth in the availability and use of social software tools and services (including widely-used personal/shared-interest and informal community sites), and the rise of so-called ubiquitous computing (Weiser, 1993).
And third, in socio-cultural terms, by the emergence of a ‘net generation’ of learners entering higher education with significant personal computing, communications and entertainment assets and with already well-developed collaboration skills (albeit with their asset inventories arguably being seen more often for ‘play’, rather than for ‘work’).

In all of these developments, it is not just students that are exploiting the new opportunities as consumers and learners. Teachers too are taking advantage of new developments to enhance existing pedagogy and to explore new possibilities in teaching and learning practice and also in research.

Institutional Approach

With difficulties in forecasting the future direction, pace and impact of such trends, adopting a single-system approach may constrain an institution’s freedom and ability to respond to evolving user needs and to take advantage of subsequent developments. Thus, exploring a number of different technology options in what might be termed a ‘co-evolutionary’ or portfolio-based approach can provide useful ‘proofing’ against future developments and changing requirements, as well as building a stronger institutional capability base.

At the University of Leicester (UoL), a ‘deliberately emergent’ (after Mintzberg and Waters, 1985) institutional approach to wiki/blog deployment has been adopted within the policy frameworks provided by the e-learning strategy (Salmon, 2005) and the current version of the overall learning and teaching strategy (UoL, 2006). Thus, a variety of wiki/blog and other repository initiatives are now being pursued in different application and role contexts.

Given the devolved nature of the university and the largely autonomous structures and cultures present in many departments, this portfolio-based approach is seen as having three main benefits. Firstly, to avoid the longer-term constraints that may be inherent in a one ‘size’ fits all approach to managing evolving requirements. Second, to enhance the institutional capability to provide wiki and blog facilities in a diverse range of both regular ongoing and ad hoc situations. And third, to enable such new developments to be provided not just in support of mainstream teaching and learning activities, but also in research and in administration.

The UoL approach to wiki/blog development has been informed significantly by participation in the 2-year long, JISC-funded, OU-led Prowe research project from mid 2005 to mid 2007 (see www.prowe.ac.uk). At UoL, the focus of much of this early work concerned the nature of communities, key lessons being drawn about the diverse nature of campus-based and remote communities and their needs, as well as the importance of ‘soft’ social and cultural factors in shaping the adoption of such new technologies (Dence and Mobbs, 2007).

Many of these issues, now focused on the newer social software technologies, are seen as having parallels with new technologies in general and with useful generic lessons to be gained from earlier work on groupware adoption. For example, Grudin (1994) highlighted some of the challenges involved in groupware design and adoption as including, *inter alia*: the need to provide unobtrusive access; the potential disparities between the work involved by users and the benefits gained; the problems of developing a critical mass of users; the disruption of social processes by new technology; difficulties in evaluating practical benefits; and the need for careful handling of the adoption process.

Experience to Date

In parallel with and embracing the Prowe project work, an institutional web content management system (CMS) has been implemented over the past two years. This is based on the Plone® open-source software, with the provision of wiki/blog collaboration tools being an integral part of the configuration from the outset.
The Plone-based CMS approach and the structure adopted provide devolved authorisation control supporting the establishment of multiple and overlapping communities. These are scalable through individual, departmental, projects and institutional levels, thus meeting a broad range of user application and access needs.

From September 2005 onwards, the system provided initial facilities for demonstration, experimental and developmental use (including on the Prowe project). These included the ability to create folders for storing a variety of digital resources within the repository (eg files in different formats, web links and images), together with wiki and blog tools and optional comment facilities provided on other resources to support collaborative working. In terms of their usability, many of these facilities were similar to those in commonly-used office-type applications, thus encouraging early adoption through familiar formats, utility and ease of use.

Between July 2006 and February 2007, the Plone CMS server capacity was increased twice more to cope with growing usage and storage needs, and the ensuing limitations on speed of access, and with further user features being provided. These additional user features have included: an online survey questionnaire tool, to allow ‘quick request and respond’ research facilities; message board and discussion forum tools; a forms facility, to facilitate online administrative actions; flash movie capabilities, for viewing video clips; and the ability to provide RSS feeds, to alert users of new material posted in their areas of interest.

Illustrative applications of the Plone CMS system at UoL to date have included:

- the creation of repositories for internal research projects, such as Adelie (see http://www2.le.ac.uk/projects/adelie), and collaborative projects involving external partners, such as Impala (see http://www2.le.ac.uk/projects/impala/), both projects involving the use of wiki/blog tools and both providing dissemination vehicles for publicly-funded projects;
- using the wiki tool for project administration and reference tasks within a small internal collaborative research community;
- using a range of features, including wiki, blog and repository tools, for the collaborative development of an academic research paper;
- using wiki/blog features for developing courseware and for providing online course activities and opportunities for student collaborative work in several academic departments; and
- the creation of event/group repositories for public dissemination purposes (including promoting the UoL presence at leading conferences, such as ALT-C 2006, ALT-C 2007 and OnlineEduca 2006).

**Developing the Portfolio**

The wiki/blog (r)evolution at UoL is not, however, limited to the Plone CMS environment alone. In keeping with the UoL’s portfolio-based approach, wiki/blog initiatives have been or are being extended into other technical environments, including most notably the main institutional Blackboard™ virtual learning environment (VLE) and also a collaborative research project using a Moodle®-based system.

In the Blackboard VLE, a pilot trial of wiki/blog plug-ins was conducted during the early/mid part of 2007. This was successful and these facilities have now been rolled out across the learning environment to support course delivery and teaching and learning activities for the 2007/2008 academic year within a 20 000-strong potential user community.
This development allows wider participation in wiki/blog-based activities by the student community who currently may lack the authorisations or permissions to make contributory and/or editing use of some early Plone sites.

In another research project, codenamed WoLF, a Moodle-based system with integral wiki/blog features is being developed. This JISC-funded project, lasting from April 2007 to December 2008, is headed by Leicester College with UoL as a partner. (see http://moodle.lec.ac.uk/wolf/ and http://www2.le.ac.uk/projects/wolf).

The project aims to develop a model for integrating institutional VLEs (including the wiki/blog features) and personal mobile devices, for the purpose of learning in work-based settings. It makes use of pocket personal computers to support portfolio development by trainee teachers on a foundation degree course during their school placements as work-based learners.

Additionally, several standalone proprietary wiki/blog environments have been or are being developed by individual academic departments at UoL. These include:

- the use of Blogger® in a science department as part of promoting collaborative learning activities by students; and
- the use of pbWiki in a research project developing FE links within the Colleges-University Leicester Network (CULN) (see http://www.le.ac.uk/ad/culn/), a collaborative network hosted by the UoL Institute of Lifelong Learning and comprising 19 Further Education Colleges and three Higher Education Institutions across the East and West Midlands regions.

Early User Research

At present, formal plans for research and evaluation on wiki/blog use are at an early stage of development. Some initial research work on user attitudes and needs has been done under the auspices of the JISC-funded, joint OU/UoL Prowe project (some findings being reported at ALT-C 2006 – see Dence et al, 2006; and also Dence and Mobbs, 2007).

A pilot survey of some 800 potential users with web authoring permissions across all UoL sites was undertaken in May/June 2007, in order to investigate early wiki/blog tool use and experience on the Plone CMS system.

Given the web authoring permissions regime in place, not all of the potential sample surveyed would have been Plone users and, even if so, would not necessarily have made use of the wiki/blog facilities available. Thus, while the number of actual respondents was limited (36 in total), these were seen as significant in being among the early adopters of the Plone CMS system, with specific needs that could be met by the new system as well as, in many cases, having highly-developed technical skills and an experimental disposition.

Initial feedback from this pilot survey suggest that users value the flexibility of the system, including the ‘organic ability’ to reconfigure and extend it as needs change and as new opportunities arise. And particularly in having a greater degree of direct control in their own hands compared with some other web technologies, rather than being dependent upon expert central or dedicated departmental support for everyday creation and input tasks.

Preliminary analysis has highlighted that, at this stage of evolution, the Plone blogging tool was of more interest and utility than the wiki tool. Overall, the office-type applications (ie folders, pages, files, links and images) represented the most common need, and the quick view’ research facility using the Plone survey tool also proved popular.
Interestingly for a social software application, a majority of respondents had not yet included a personal profile of themselves for the benefit of other system users. Similarly, a majority of respondents had not yet used the individual user space available as a personal repository, although it is recognised that most would have well-established routines and facilities for such use and arguably be reluctant to transfer materials to a new system until proven.

In terms of applications, internal and external dissemination were the most widespread uses, with research project collaboration and administration also showing significant levels of interest. At this stage of evolution, teaching-related uses (collaboration with colleagues, teaching materials development and course materials development) were the most limited in extent. This is, perhaps, not surprising given that currently most students would not have access to the Plone system, and for these reasons the provision of wiki/blog tools in the Blackboard VLE may prove more significant in the short term from a teaching and learning perspective.

In response to a survey question asking about the main initial purposes or applications or uses made of the Plone system, illustrative comments from respondents included:

(Provides a) “user community for online technologies personal development - I use Plone to maintain a blog of my work activities in my personal folder.”

“Disseminate results of research work. Promote communication within department.”

In response asking whether the Plone system had enabled users to do things that were either just not possible or difficult with previous technologies, comments included:

“Very easy to set up and update webpages, which look good. Potential for Web2 features eg interactive development of drafts etc.”

“Development time is heavily reduced as the template and structure already exist leaving us more time on content.”

In response asking whether the Plone system had enabled users to do things either better or more efficiently or productively than previous technologies allowed, comments included:

“It has greatly increased the speed of the development of structures for sites. The sticking point remains the generation of content which will always be down to the particular stakeholders.”

“The way Plone is organised and automatically updates weblinks is definitely more efficient. The fact that no previous web authoring experience is required makes it available to more staff, which means it is more likely to be updated more regularly.”

In response to a further question asking to what extent has the Plone system had provided a useful addition to the technology resources available, comments included:

“The new Plone system has enabled a wider range of staff to have web access and has forced a far more sensible basic structure to the website that can in turn be developed. ..... as staff get more accustomed to the software the more interesting aspects ..... such as blogs, surveys, wikis etc may be used.”

This early research into Plone system use, undertaken using the embedded survey tool, was intended to provide a first view of early experience, practice and opinion and also an initial benchmark reference. As such, it will inform future institutional developments in the wider social software arena, as well as to inform evolving best practice in respect of different wiki/blog applications.
Given the very early stage of development after the pilot testing, no realistic evaluation of wiki/blog use within the Blackboard VLE can be undertaken in advance of ‘going live’ for course delivery with effect from end September 2007. However, plans for research on user experience and application on both systems will be developed.

**Future Directions**

Notwithstanding the very considerable progress made in the deployment of various systems and system features at UoL since 2005, work on developing the portfolio continues. The future programme still includes the wiki/blog facilities, which having been made available are now largely in the hands of the various individual and departmental users to take forward.

With the Plone CMS system at UoL, an upgraded version (v2.5) of the software is under test currently and is expected to go live in time for the 2007/2008 academic year at end September 2007, with plans to upgrade to the next version (v3) when that is released in 2008.

Further applications developments are also under consideration within the Plone CMS environment, including: a ‘groups’ capability, to facilitate the formation of smaller and/or temporary communities and work groups; a ‘pencil’ facility, for making notes to assist collaborative working on documents; and a ‘portfolio’ feature, to support staff career appraisal and continuing professional development (CPD) plans.

Further potential enhancements include the provision of a test question engine, an electronic voting facility, and integration with student administration systems. And in the longer term, the potential for virtual classroom tools, such as electronic whiteboards and synchronous conferencing will be examined. Ultimately though, the possible opening of the Plone system authorisations for student use, alongside the complementary Blackboard VLE facilities, is likely to be the main spur to widespread wiki/blog use.

Within the Blackboard VLE, further stages of development will focus on the embedding of such facilities in professional and study practice and on the wider integration of these technologies into and with other systems. And on the Moodle-based WoLF project, with its integral wiki/blog facilities, work is still at an early stage and with significant developments unlikely to emerge until mid 2008.

**In Conclusion**

At UoL, a number of initiatives in wiki/blog development, and in related areas involving repository, communication and collaboration requirements, have been implemented since 2005 and are now at the early stages of evolution in terms of user experience.

Diverse approaches have been adopted, using the established Blackboard VLE environment, as well as environments new to the institution in the Plone CMS and Moodle VLE systems. Taken together, these technical innovations are seen as providing the necessary impetus for rapid growth in use, not just in the wiki/blog facilities, which are only one among many services now being provided, but also in the other associated facilities within each system.

This multi-system or portfolio-based strategy is seen as helping to avoid any problems that may be inherent in a ‘one size fits all’ approach, with the use lessons gained from one environment being of potential benefit in others. A richer range of capabilities has been developed that it is anticipated will enable the institution to respond flexibly to emerging and changing requirements in different application areas. While the initial focus was on potential uses in teaching and learning applications, the importance of such developments in research and administration applications also has been highlighted.
References


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