City Research Online

City St George's, University of London

Citation: Glover, I. & Oliver, A. (2008). Hybridisation of social networking and learning environments. In: Luca, J. & Weippl, E. (Eds.), Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2008. (pp. 4951-4958). EdITLib. ISBN 1880094657

This is the unspecified version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: https://openaccess.city.ac.uk/id/eprint/1729/

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to City Research Online policy.

City Research Online: http://openaccess.city.ac.uk/ publications@citystgeorges.ac.uk

Hybridisation of Social Networking and Learning Environments

Ian Glover,
Learning Technology Development Unit,
University of Hertfordshire, UK.
i.r.glover@herts.ac.uk

Andrew Oliver,
Learning Technology Development Unit,
University of Hertfordshire, UK.
a.oliver@herts.ac.uk

Abstract: Over the past few years there has been a dramatic increase in Online Social Networking, both in terms of the number of web sites that offer this service and the number of users of those sites. A key aspect of Online Social Networks is that the content is user created and edited/commented upon by other users. The benefits of this type of co-operation and collaboration on the learning process have long been recognised and steps have been taken to introduce these aspects into Managed/Virtual Learning Environments. However, the social aspects of these environments are generally restricted to people with an official affiliation with the hosting organisation. This paper discusses the StudyNet MLE developed by the University of Hertfordshire and the drivers behind a project to integrate social networking aspects to the system and widening access beyond the traditional community. The paper concludes with the vision for the new, more social StudyNet and some general implementation details from the early stages of the project.

Online Social Networking sites have existed on the web for over a decade, early examples being *classmates.com* and *sixdegrees.com* (named after the famous 'six degrees of separation' concept), though some would say that UseNet is a form of social networking that greatly predates the web. However, it is only in the last 5 years that the rise of sites such as *MySpace*, *Friendster*, and *Facebook* has brought the concept into the mainstream.

Social Networking has become a huge growth area in Web use and in October 2007 social network sites overtook web email in terms of overall web traffic for the UK (Goad & Mooney 2008). An encouraging statistic for those people with an interest in e-learning is that Goad and Mooney (2008) also show that, in that month, 3.37% of visits to a social network site were immediately followed by a visit to a site related to education. This suggests that there exists a significant proportion of social network users who are involved in some kind of educational process and that Social Networking is used contemporaneously with their studies.

The increase in the use of these sites has lead to investigation into the potential for using the same or similar technologies within education, particularly the lifelong learning sector. Although the formal literature relating to this area is currently small, but increasing (for example, Owen et al., 2006), there has been significant discussion taking place on web logs (Davis, 2007; Wilson, 2005) -themselves a core aspect of social networking -in a much more exploratory and collaborative manner. There are, however, news items appearing that highlight some potential problems with the highly public nature of these sites, particularly over the possible uses of the information in user profiles (BBC, 2008) and the difficulty in removing profiles (Cellan-Jones, 2008). Concerns are also growing over the overt commercialisation of existing social networks, and the 'information overload' to which such sites are contributing (Iskold, 2007).

Project Background

The Learning and Technology Development Unit (LTDU) at the University of Hertfordshire (UH) began development on, and released, a VLE in 2000 for use on all modules taught in all programmes across the university.

This system, StudyNet, has been extended over the following eight years and has grown considerably in scale, into both an MLE and the institutional Intranet. The development team has endeavoured to keep up with developments in both M/VLEs and web technologies in general so as to ensure that StudyNet provides the features that are expected by staff and students. These developments have always focused on the benefits that they can bring to the students' learning experience. The key aspect has always been accessibility rather than simply implementing the 'latest and greatest' web developments. This, along with legislation such as the UK's Special Educational Needs and Disability Act (SENDA) 2001 (http://www.opsi.gov.uk/acts/acts2001/pdf/ukpga_20010010_en.pdf), has meant that the use of technologies such as client-side

JavaScript and Flash have always been restricted.

A new strategy for UH is aimed at expanding the user base of StudyNet beyond the current 'staff and student' model and into businesses and amongst the university's alumni (explained in the subsequent section). This change will allow the development of a new system to complement StudyNet that is less restricted by legislation and the need to ensure a consistent experience to all users. The user base is expected to rise from around 30,000 live accounts at the end of the current academic year to more than 250,000 over the 3 years following the beginning of the 2008/2009 academic year. This increase in users will be derived from a combination of Alumni (all graduates and former staff will be provided with accounts), applicants (prospective students will be supplied with accounts prior to formal enrolment) and business users (short course attendees will obtain accounts).

Drivers

There have been a number of drivers towards developing a hybrid 'Socialised Managed Learning Environment' at the UH, both at the institutional level ('driven from above') and from the students' changing study behaviours ('driven from below'). The rest of this section outlines some of the main drivers within each of these areas.

Institutionally Driven

A priority identified in the 'University of Hertfordshire Strategic Plan 2007 – 2012' (http://perseus.herts.ac.uk/uhinfo/library/n85950_3.pdf) is to increase the number and diversity of StudyNet users. This forms part of the institution's expansion of its role as a business-facing and business-like university, both within the internal processes and in preparing students for the 21st Century workplace respectively. Central to this objective is the engagement with people who, traditionally, do not have a formal relationship with either the university or Higher Education or, in the case of alumni, no longer have that formal relationship. In order to accommodate this increasing diversity of the university community, and encourage engagement with the MLE, StudyNet will have to adopt and support social networking elements. This will enable the formation of 'hubs' populated not only by current students but also including prospective students, mentors (senior students, tutors and researchers) with global connections to external users (alumni, employers and subject experts).

The 'socialised' StudyNet, through networking and individual empowerment, will address at least three strategic areas. First, as placement support in which students maintain contact with peers, sharing experiences, artefacts and, due to the in-built social networking elements, engage in mutual reflection. These social groups will expand to include those who have restricted or no conventional access to current students such as employers, industry-based experts, and postgraduates. Pastoral support, in which students connect with individuals of similar interests, background and circumstance with the purpose of providing mutual support, friendship and a sense of community, is the second area addressed. The third aspect is enabling the development of global links between university members and external professionals therefore allowing students to develop networks with industry while at the same time allowing industry to connect with students either studying in or expressing interest in their occupational field.

Networking goes hand-in-hand with content creation as members share information and so, in order to foster idea exchange, the new 'socialised' StudyNet will have to empower each member of the university to become a content generator. The primary mechanisms for this will be socially-based communication tools such as blogs, forums, profile updates, photo and video libraries, as well as traditional course related activities such as essays, project work and learning content generation. In turn, the content will be targeted towards fellow users through a combination of profile matching and the recognition of behavioural patterns. As such, the student will be connected to information flowing from a combination of dedicated course websites together with relevant/desired information created elsewhere within the university community; the former increasingly being regarded as a traditional route of information flow, i.e. one-way and tutor dominated. This 'connection' between student and content can be regarded as a means to end since ultimately it is anticipated and desired that the student will associate with and develop a relationship with the content's *creator*, thereby reinforcing the social networking aspects. Essentially, an MLE endowed with social networking characteristics will enable the student to identify and maintain a relationship with peers in related areas outside of the confines of the traditional class context, making connections with people who, as the Horizon Report 2008 suggests, they "would otherwise have missed" (New Media Consortium & EDUCAUSE, 2008, p. 26).

Behaviourally Driven

The 'socialisation' of the MLE is also in response to pressures external to the institution and to that of Higher Education itself. The recent rise of online social networking has altered the user experience of the Internet from that of passive information recipient through to active content creator. The Web 2.0 environment is responsive to the needs and actions of the user, with content growth mirroring organic creation as users collaborate and extend ideas. This is concurrent with, and supported by, the continued penetration of mobile technology into mainstream culture. It is therefore a reasonable assumption that future students will, by some means or other, be almost-continually connected to and feeding into both online content *and* community. In a learning

context this will alter study habits as the student is afforded the opportunity to be a pro-active stakeholder in course knowledge generation and, due to their independence, an individual with their own set of views, opinions and prejudices on the subject. These external factors can therefore be broken into two elements both relating to change: emergent technologies and the development of the student self identity.

Future MLEs will have to reconcile their design towards these emerging technologies and accommodate the new, independent learner. There are two aspects to the technology issue: social networking software and Personal Learning Environments (PLEs). The first involves the user operating as part of a community in which content is generated, shared and reflected upon, while the second relates to the organisation of this generated content such that the recipient is able to prioritise and filter information and, in doing so, apply intelligent organisation to the manner in which the information is delivered to them.

Student expectation surveys undertaken with current UH students (Goossens, et al., 2008), as well as general 'media literacy' surveys conducted for the UK independent communications regulator Ofcom (Buckingham, 2006; Ofcom, 2006), show that there is now a high base level of understanding of the Internet and World Wide Web amongst young people, with many students having their own websites or a presence on a social network such as *MySpace*, *Facebook* or *Bebo*. Contemporaneous and congruent to the arrival of social networking is the appearance of content hosting and sharing sites, (e.g. *Flickr*, *YouTube*), content aggregation and rating sites, (e.g. *Digg*, *del.icio.us*) and user generated content sites, (e.g. *Wikipedia*, *TripAdvisor*). As with social networks the underlying ethos is of fostering user generated content together with community-led knowledge sharing, validation and further creation through dialogue, rating and feedback. Essentially, knowledge is created and it then spreads across the network as other community members refer to and reflect upon it, while at the same time transforming it through further insights. This is related to behavioural patterns in terms of when and where the technology is used and so the nature of user engagement with this technology is moving away from sedentary use towards a more mobile context as the reality of mobile broadband enables networking 'on the move', with students collaborating through instant messaging (e.g. *MSN Messenger*), voice over IP (e.g. *Skype*), and microblogging (e.g. *Twitter*).

Social networking, together with the changing background of the StudyNet user, is beginning to influence student expectation as to what part the Internet will play within their higher education learning experience. It is likely therefore that future students' expectations will be for MLEs to support, at a base level, the delivery of mobile-appropriate content and to enable peer-networking facilities to be embedded within both the academic *and* the social process.

Vision

StudyNet is used by people with no interest in existing social networking sites (as an example, the 'University of Hertfordshire' network on *Facebook* has just over 10,000 members, whereas StudyNet receives over 20,000 unique user logins per day). Therefore there is no desire to directly compete with existing social networking platforms such as *Facebook*. These systems have numerous strengths, such as interacting with new people, free and open access, large user bases, etc., but they also have caveats. There is a strong argument for a degree of separation of work/study and social life – students are unlikely to want staff to view their personal profiles, and vice versa. For this reason, it is desirable to create mechanisms that will allow users to create material in an external system and import it directly into StudyNet, as well as publish from StudyNet to external systems.
The system that is under development is partly intended as a platform to extend the current user base into areas previously not served by StudyNet, namely alumni; business; and applicants. This will support the new UH strategy to increase focus on lifelong learning; however the features will also be seamless integrated into StudyNet for existing staff and students. It is the intention that the 'socialised' StudyNet will provide a complement to the existing learning-focussed system by increasing the level of interaction between students, both on the same programme of study and on ones from other faculties and departments.

It is anticipated that the inclusion of alumni in the user base for the proposed system will also greatly benefit students, particularly those looking for industrial placements or in their final year and investigating career options. These students will be able to use the system to network with recent graduates who have joined companies of interest and research aspects of the workplace not generally publicised. The alumni would be able to use the system in a similar way – when they are looking to move jobs – and also as a method to identify potential candidates for vacancies with their current employer.

Applicants – prospective students applying to courses at UH – would be able to use the system to identify people who are also going to be studying on their course or joining the university at the same time. They would then be able to develop friendships and acquaintances before arriving at the university, helping to relieve some of the initial worries felt by new undergraduates. A side effect of this could be that applicants who do not achieve the required grades for entry will decide to do a Foundation-level course at UH, come after they resit examinations, or try a different course because they have already developed a network of friends.

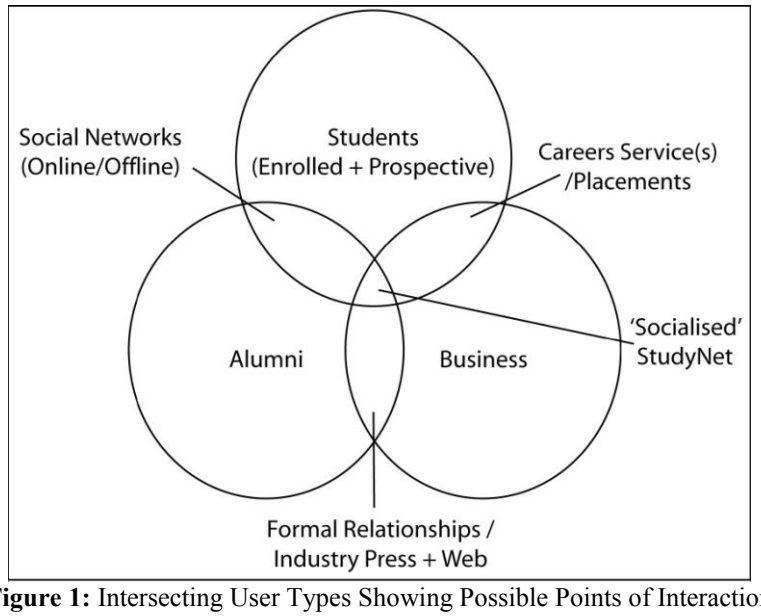

Figure 1: Intersecting User Types Showing Possible Points of Interaction

Businesses may also be able to benefit from the new system because one of the key features, one that reinforces the university's 'Employability' agenda, is to allow students to draw together resources they have created, both at UH and outside, to form a portfolio. The users will be able to identify the items that they want to make available to particular people or organisations and generate a unique, possibly time-limited password that can be used to access that specific set of resources. This encourages users to think about the items that they make available in their portfolios according to the intended audience and for businesses it means that the previous work that they may be presented with could have a higher relevance.

These categories of user do not, as things stand, exist in complete isolation. Figure 1 provides an overview of how the categories intersect, along with examples of routes through which these intersections might occur. Students and Alumni might interact through Online Social Networks (such as a *Facebook* group), discussion groups and community services such as visiting schools and colleges. Students interact with business through industrial placements, part-time work and the careers services of both their educational institution and outside agencies. Alumni and business may have formal relationships, such as employee-employer or job applications, but may also have indirect interaction through news stories and industry press. The 'socialised' StudyNet sits in the centre of all these relationships and aims to consolidate some of the interactions into a single point of contact, making it easier for all parties to manage their relationships.

In essence, the intention of the project is to create an MLE architecture that will alter study habits and lead to new forms of knowledge generation. Potentially, a great deal of content could be produced by the student not only through completing course work and engaging with course material but also through networking and private reflection (such as blogging and tagging). As the data will be associated with the student, this will lead to connections being made with other students researching in related areas and interests. The new StudyNet, through adopting social networking, individual empowerment, and people matching (connecting people according to specified interests, experience, etc.), will promote and support scholarship, research and collaboration based around collective intelligence. When combined with the increased user base, the quality and diversity of the connections within the collective is likely to improve.

A key to the success of the system will be in the interaction between Alumni and business; it is therefore essential that there exists functionality to entice and retain Alumni on the system. There are two key features/services that are intended to encourage prolonged use by former students: E-Portfolios and a lifelong e-mail address. The portfolio system will be partly populated by information generated during the users' studies, such as assignment files and grades, and will enable users to create customised Curriculum Vitae/resumes with time-limited passwords that can be used to allow prospective employers to access areas of the user's portfolio. As users' add information to their portfolio a more detailed profile will be develop and this will, according to the privacy rules set by the user, reinforce the people matching aspects of the system.

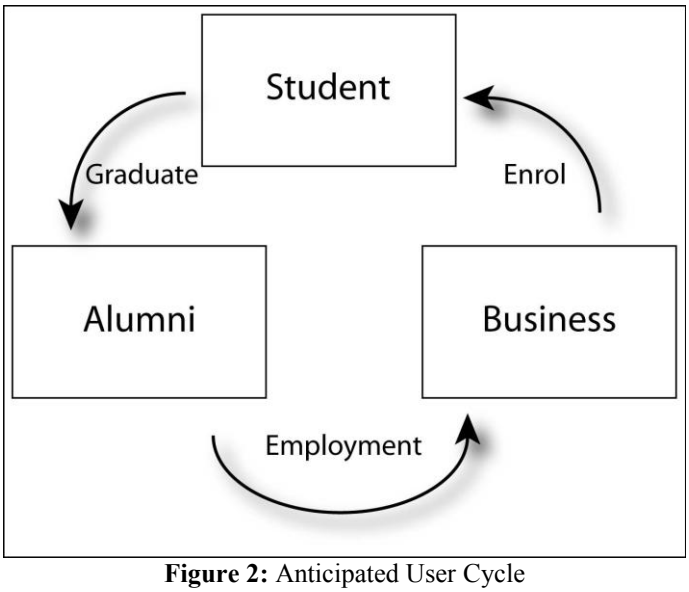

Figure 2: Anticipated User Cycle

The opening up of the system to additional user types is intended to bring benefits to UH, as well as to the users and their organisations. The system will provide tools to produce highly targeted marketing of short-courses and skills sessions (though users will be able to opt-out of this) that will, according to the user's experience and desired career, highlight areas of possible improvement and suggest UH courses to fulfil these gaps in knowledge. Figure 2 shows a possible user cycle where a student graduates and joins the Alumni category, joins a company and becomes a business user and is sent on a short course by the company, therefore entering the Student category again. This marketing of courses will need to be infrequent and highly targeted in order not to cause users to desert the system.

The system will provide the portfolio functionality that will allow users to reflect on their learning and experience, as well as highlight areas to address. There are significant advantages in integrating this functionality into the 'socialised' StudyNet, including:

- Automatic population of results and significant pieces of work.
- Integration of informal learning and experience entered as part of social networking activities.
- Extending availability of portfolio beyond graduation.
- Direct presentation to potential employers (within privacy limits set by user).

The reuse of information generated through academic and social processes will reduce the effort required by users in order to develop their portfolio and supporting evidence. This information could then be used to rapidly produce other materials such as Curriculum Vitae or job application support documents with little additional effort on the part of the user.

Implementation

The physical separation of the new Social system from the teaching-focussed system prevents issues with the new system having a negative impact on the availability of the MLE, though staff/students may not be aware of which they are using at any particular time. This is an essential requirement as all teaching modules at UH are automatically provided with a website within StudyNet and general usage of the system by students is extremely high and must be preserved. Due to licence restrictions on some of the resources and software, the learning and teaching aspects of StudyNet will only be available to enrolled students and active staff member, so the separation of the two systems will make it far easier to prevent access to these resources by other types of user.

Existing systems such as *Facebook* and *Flickr* provide a large amount of functionality at no direct monetary cost to the user, some of which has potential benefits to a learning process. As noted above, the main objection to the use of these systems is also the reason that they have been so successful – they allow personal information to be made publicly available to interested parties. In a general social context this may not be so much of an issue, but in an educational context there can be significant issues over ownership of, access to, and removal of this information. It is therefore essential to provide a controlled environment where the user is completely in charge of the amount of information that is made available to other parties. However, it is counter-productive to develop a system that does not make use of these existing and highly-used products, therefore the 'socialised' StudyNet will allow users to import/export content from/to these other systems via published Application Programming Interfaces (APIs). Eventually it may be desirable to allow users to create their own mini-applications that can be added to StudyNet profiles, in a similar way to those on *Facebook*, allowing greater customisation within the basic framework.

The envisaged system will provide a high level of control over who can see particular aspects of a profile, such as only sharing

photos with friends on StudyNet, or perhaps selecting a few that are publically visible as part of a portfolio for prospective employers. It is likely that the provision of flexible privacy controls will be essential to all social networking systems in the next year or two and the proposed system will developed in order to allow users to fully customised what can be seen by other individuals and groups of people. This is particularly important in respect to the concerns reported by Cellan-Jones (2008) as users are likely to want tighter control over their public image, such as with potential and current employers, than that which is presented to their friends and peers.

Existing social networks already allow users to customise profiles and portals and by inference decide how they will receive and, more importantly, share information with others. To reflect this, the 'socialised' StudyNet will have to provide functionality which allows the user to determine how relevant content will be automatically presented to them as opposed to the user having to seek out information and determine its relevance; in other words, the learning environment will have to be personalised. This can be achieved at two levels: the user will be provided with configuration options together with apps creation utilities to help them create and sift content and the system will aid the user in filtering information through automatically determining the relevance of content created by others.

As mentioned previously, the fact that StudyNet is an MLE, and is therefore restricted according to UK accessibility laws such as the SENDA, has prevented the use of some of the dynamic web interface technologies that have appeared over recent years. StudyNet is a mature application and maintaining a consistent 'look and feel'has always been important, but this has meant that the interface now appears more basic and, possibly, less appealing to the average user than newer sites such as *Facebook* and *Flickr*. With the new system a change in direction can be made and the use of some of the functionality of Web 2.0 sites is allowable, provided that an accessible alternative also exists. The reason for this is that the new system is not primarily aimed at the educational processes of students (there may even be users who are not students). This means that many of the restrictions enforced by the SENDA are no longer applicable, though the Disability Discrimination Act (DDA) 2005 (http://www.opsi.gov.uk/acts/acts2005/ukpga_20050013_en_1) means that an accessible version of the core functionality must be provided. This will generally lead to the opportunity for a more dynamic experience for the vast majority of users and allow greater customisation of aspects such as portfolio layouts and JavaScript-imported elements. Screen-readable alternatives will provided to users who require them and also to users with JavaScript disabled.

Conclusion

The convergence of the traditional Managed Learning Environment and the Online Social Network site has the potential to improve the level of engagement with learning materials as well as form networks in which the participants are both information creators and consumers. These new learning networks can utilise the principles of Online Social Networks by expanding their membership beyond those staff and students formally associated with a subject to include any user with an interest in the area. This expansion of network memberships can be reinforced by increasing overall user base, which is also a part of the project discussed in this paper.

The drivers for the development of the existing MLE into a hybrid Social Network/Learning Environment at the University of Hertfordshire are essentially twofold: those from a formal institutional strategy ("from above") and those from student expectations and changing behavioural patterns ("from below"). In this case, by addressing the institutional requirements, the changed behaviour of students will also be addressed (and *vice versa*).

The essential vision for the hybrid 'socialised' StudyNet is to move away from lecturers providing the majority of the learning resources and, by harnessing the connections fostered by the Social Networking aspects, have the users begin to develop materials collaboratively. Expanding the user base by an order of magnitude, including external subject experts, businesses and researchers, will greatly increase the range of experience available to the network, which will correspond to new perspectives on subjects. New perspectives will force students to reconsider their own views and therefore lead to new insights and the altering of personal opinion.

The project is currently in its initial stages with little technical implementation having occurred; however, a degree of investigation into both the project as a whole and individual aspects of the system. These investigations have highlighted some of the required and desirable aspects of a 'socialised' MLE, though the full practicality and applicability to education will only become truly apparent upon completion of the project.

References

Buckingham, D. (2006). *The Media Literacy of Children and Young People*. Ofcom review. Published: 2nd May 2006. Available from: http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/ml_children.pdf. Last Accessed: 27th April 2008.

BBC. (2008). *'Facebook' lost policeman top job*. Article dated: 26th Februrary 2008. Available from:

http://news.bbc.co.uk/1/hi/england/beds/bucks/herts/7265775.stm. Last Accessed: 21st April 2008.

Cellan-Jones, R. (2008). *Social sites prove hard to leave behind*. BBC article dated: 24th January 2008. Available from: http://news.bbc.co.uk/1/hi/technology/7206852.stm. Last Accessed: 21st April 2008.

Davis, V. A. (2007). *11 Suggestions for (Social) Network Heaven (from a teacher's view)*. Blog post dated: 7th December 2007. Available from: http://coolcatteacher.blogspot.com/2007/12/11-suggestions-for-social-network.html. Last Accessed: 21st April 2008.

Goad, R., & Mooney, T. (2008). *The Impact of Social Networking in the UK*. White Paper (Hitwise UK). Available from: http://www.hitwise.co.uk. Last Accessed: 21st April 2008.

Goosens, Y., Jefferies, A., & Bullen, P. (2008). *Technology at University: New Students' Expectations for Social and Academic Uses*. In Press. To Be Presented at Ed-Media 2008.

Iskold, A. (2007). *Facebook: What If More Is Less?* Blog Post dated: 27th September 2007. Available from: http://www.readwriteweb.com/archives/facebook_what_if_more_is_less.php. Last Accessed: 21st April 2008.

New Media Consortium & EDUCAUSE. (2008). *The Horizon Report: 2008 Edition*. ISBN: 0-9765087-6-1. Available from: http://www.nmc.org/pdf/2008-Horizon-Report.pdf. Last Accessed: 21st April 2008.

Ofcom. (2006). *Media Literacy Audit: Report on adult media literacy*. Ofcom review. Published: 2nd March 2006. Available from: http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/medialit_audit/medialit_audit.pdf. Last Accessed: 27th April 2008.

Owen, M., Grant, L., Sayers, S., & Facer, K. (2006). *Social software and learning.* 'Blue Sky' Report (Futurelab). Available from: http://www.futurelab.org.uk/resources/documents/opening_education/Social_Software_report.pdf. Last Accessed: 21st April 2008.

Wilson, S. (2005). *The VLE of the Future*. Blog post dated: 17th January 2005. Available from: http://zope.cetis.ac.uk/members/scott/blogview?entry=20050117150356. Last Accessed: 21st April 2008.

Acknowledgements

The authors wish to acknowledge the efforts of the other members of the Learning Technology Development Unit (LTDU) at the University of Hertfordshire: Paul Hudson; Charles Macnab; Felix Power; Peter Berrisford; Brian Osborne; and Jon Urwin. We also thank David Piper, Gary Sherin and Julie Franklin for their work with the LTDU.