2007 ITL Social Software Pilot Production Project

Project Closure Report

Executive Summary

In 2007 the Institute of Teaching and Learning (ITL) piloted social software for use in teaching and learning and administration. At the close of the pilot 48 out of a possible 50 sites were installed on the production server.

The pilot was well received by staff who indicated that social software allowed flexibility in delivery, the development of authentic learning environments, social and constructivist teaching and learning activities. Social software also enhanced communication, administration and research across the university with several communities of practice being established using pilot sites.

The recommendations resulting from the pilot are:

- MediaWiki and Drupal-SMF be farmed and supported as production technologies in 2008 and beyond
- One MediaWiki and one Drupal-SMF farm be integrated into Blackboard
- Gallery2 be maintained and enhanced if no more suitable gallery application comes to light
- Deakin develops procedures to allow external participants to access social software sites quickly and easily
- Deakin maintains a development and production environment to support research and development around eLearning and social software technologies on an ongoing basis

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Introduction

In 2007 Deakin staff members were able to request social software website installations as part of the 2007 Social Software Pilot Production Project. The project was supported by the ITL and the Information Technology Services Division (ITSD).

Two servers were installed and maintained as part of the pilot: development (seki) and production (lyka). The development server was used for experimental sites, sites that had a short life span and would not be used in teaching and learning and to trial new technologies that came to light.

The development server also hosted a user acceptance testing directory (UAT). This directory contained a duplicate installation of every website hosted on the production server. It was used by ITL, ITSD and the person who requested the site to test the configuration and functionality of each new website. Once sites were configured correctly and fully functional a copy of the UAT site was placed on the production server and the site was available for use.

The pilot supported the installation and maintenance of up to 50 websites (in total) on the production server that was maintained by ITSD. Deakin Faculty and Division staff members could select one of the following supported technologies when requesting a social software installation:

1. **Drupal** - Drupal allows users to publish, manage and organise the content of a website. It facilitates social networking and blog based communication. It also contains the option for users to be notified via email when content on the site is updated. Drupal software affords some control over the look and layout of a site.
2. **MediaWiki** - MediaWiki is a powerful collaboration tool allowing users to publish, manage and organise the content of a website. The software is predominantly focused on providing a space for information sharing and knowledge base building rather than control over the look and layout of a site.
3. **Gallery2** - Gallery2 supports the creation and management of an image gallery. Users can create their own ‘album’ by posting images. Peer review activities can also be supported as users can post comments about other users’ images.
4. **Joomla!-SMF** - Joomla! combined with SMF (Simple Machines Forum – a threaded discussion board tool) supports discussion based activities, social interaction and networking functionality. Joomla can also be used to publish, manage and organise content to support the discussion activities.
5. **WordPress** - WordPress is a blog tool that is widely used on the Internet. It facilitates quick and easy website publishing and requires little technical knowledge to use. WordPress can be used to support an instructor-managed blog where the staff member can post content authored by students.

During the pilot staff members who requested a social software site were supported with an initial consultation with an ITL staff member to elicit their requirements and to determine the technology that would suit their needs. Once requirements were finalised, ITL placed a service request with ITSD to install the site. The resulting UAT site was then configured, tested and finally migrated to the production server for use.

Once a site was installed, staff members were offered an initial one hour face to face training session with an ITL staff member who provided an introduction to support materials (there are online resources for both students/users and staff/site managers) and the management of their site. Continuing phone support was provided by the ITL project manager and Teaching Support Service (TSS) as required. The IT service desk provided technical support for students and staff who experienced difficulties such as not being able to login to their site or the site being unreachable due to networking difficulties.

Project Metrics

The pilot installed forty eight production sites that were used to support university activities relating to teaching, learning, research and administration. Relevant statistics relating to these sites are presented in Tables 1 through 3 below. A list of all production sites installed during the pilot and a description of their purpose is included in the Appendix.

Table 1 Installation statistics - 2007 production social software sites by technology.

PRODUCTION SITES BY TECHNOLOGY				
Drupal	**Joomla!-SMF**	**MediaWiki**	**Gallery2**	**WordPress**
13	7	24	2	2
27%	15%	50%	4%	4%

Table 2 Installation statistics - 2007 social software production sites by owner.

PRODUCTION SITES BY OWNER					
ARTS	**B&L**	**EDUCATION**	**HMNBS**	**S&T**	**DIL**[1]
4	4	15	3	4	18
8%	8%	31%	6%	8%	38%

Table 3 Installation statistics - all sites by server.

PILOT SITES BY SERVER			
Dev	**Archive**	**UAT**	**Prod**
18	32[2]	48	48

User Evaluation

During the course of the pilot in 2007 ITL solicited feedback (through eight formal interviews and email surveys) from the Deakin staff members who used social software sites. In two instances (Gallery2 and Joomla!-SMF) staff members solicited feedback from students that was available to ITL for review. The feedback has been positive overall. The following points highlight the major themes discovered through the evaluation process:

- Staff feel that social software offers flexibility and opportunities in the delivery of eLearning in faculties and the management of administrative tasks in divisions
- Staff felt that the training and support provided by ITL, ITSD and faculty support staff met their needs
- Staff felt that some eLearning and administrative activities would be scaled down or discontinued if social software was not available to support them in 2008

[1] Divisions, Institutes and Library (DIL).

[2] The archive includes a wiki farm numbering 17 wiki sites.

- Staff felt that they were only just beginning to realise the opportunities afforded by using social software to support teaching, learning and administration and that there was potential for further research around using social software such as:
    - Developing and sharing efficient and flexible assessment and feedback strategies
    - Developing and sharing effective moderation and engagement practices
    - Developing and sharing efficient time management practices for online teaching using social software in conjunction with DSO
- Staff noted that social software had given them the opportunity to engage external experts from industry and students and staff from other institutions in learning activities that would otherwise not have been possible
- Social software allowed staff to provide authentic learning environments that supported constructivist, social, experiential and problem based learning activities in a manner that could not be achieved using DSO

Technical Evaluation

Analysis of the functionality of pilot technologies has discovered that the features that users found most useful were:

- Avatars
- Social networking
- Blogs
- Discussion boards
- Email notification of recent contributions to the site
- Gallery with peer review facility

MediaWiki, Drupal Gallery2 and Joomla!-SMF were identified as the technologies that best supported user needs during the pilot.

2008 Production Project Planning and Status

The feedback documented in the user and technical evaluation sections of this report was analysed in August 2007 to determine the requirements for social software in 2008 and beyond. Analysis highlighted a business need for:

- Wikis
- Community Portals
- Gallery Software

This section outlines the technical, training, support and research requirements for implementing the required technologies in a production environment in 2008. ITL has worked with ITSD since August to develop scaleable technical solutions to support full production of social software in 2008. The current status and a list of outstanding tasks required to complete the implementation of the 2008 Social Software Production project are also presented in this section.

Creating Scalable Community Portals

Forty two per cent of pilot production sites were community portals powered by either Drupal or Joomla!-SMF. Both technologies were well received by users. However, Joomla!-SMF did not integrate with the university authentication systems. This lack of integration made management of Joomla! sites time consuming for administrators who were required to manually create hundreds of accounts so students and staff could access their sites.

Drupal integrates with the university authentication system. ITSD and ITL completed a proof of concept integration of Drupal with the SMF forum to test whether threaded discussion-based community sites could be supported using this platform instead of Joomla! The integration was successful. A screen capture of an integrated Drupal-SMF site is depicted in Figure 1. In 2008, all portal sites will be supported using Drupal with the option to enable the integrated SMF forum if required. This should dramatically reduce the number of sites that require manual creation of accounts.

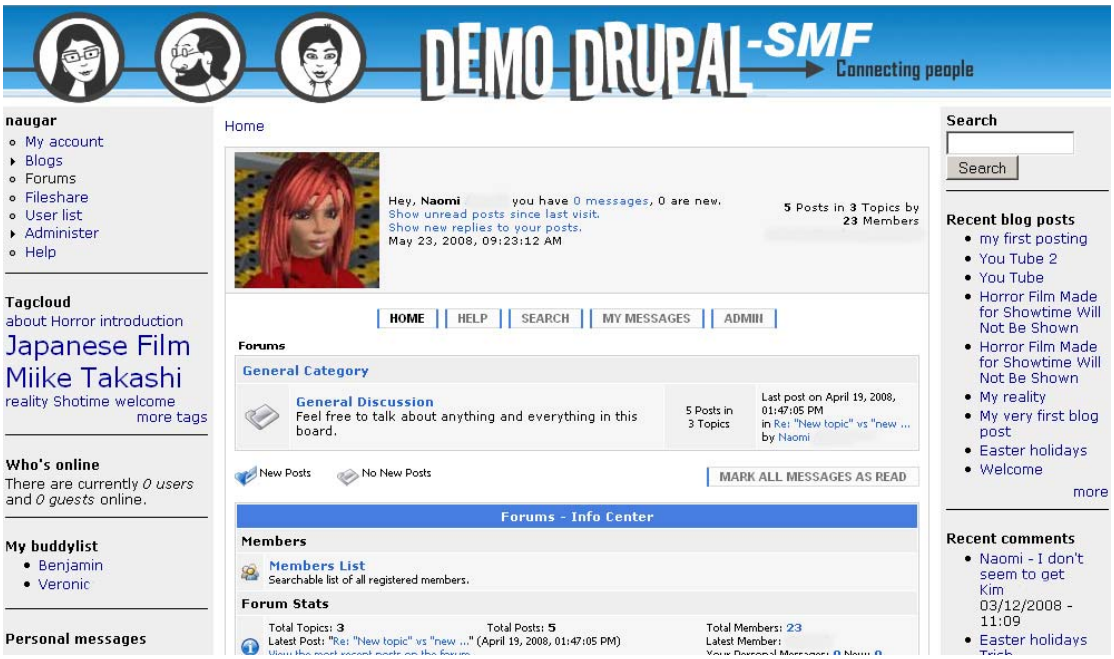

Figure 1 The forum (threaded discussion board) home page in an integrated Drupal-SMF site.

The Recommended Production Applications

In September 2007 the DSO Steering committee approved ITL's recommendation that Deakin support the following social software production technologies in 2008:

- Drupal-SMF
- MediaWiki
- Gallery2

Farming Production Applications

In August 2007 ITL and ITSD began developing prototypes of a MediaWiki and a Drupal-SMF farm. Farming MediaWiki and Drupal-SMF allows multiple sites to use a single set of source code, rather than each site requiring its own set of code files to run. This means that a single set of source code will support multiple site installations as depicted in Figure 2.

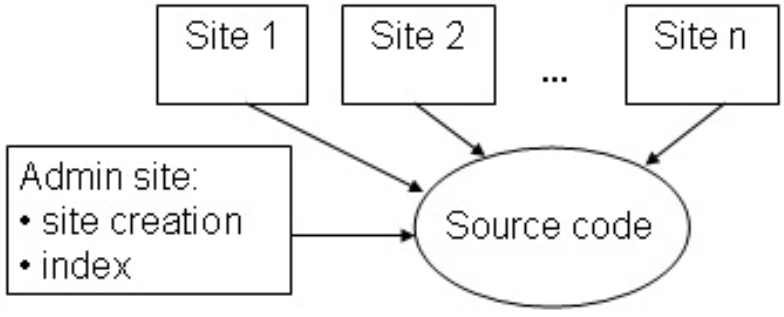

Figure 2 Farming social software allows many sites to run off a single set of source code. Installation is managed by an administration site known as an index.

Farming software will facilitate efficient security and functionality upgrades and streamline backup and management processes.

A MediaWiki farm was implemented for use in HSO104 Occupational Therapy in August 2007. The farm was very well received by staff and students and no technical difficulties were experienced. A Drupal-SMF farm was also created and subjected to preliminary testing however no pilot was undertaken due to time constraints.

It is recommended that four software farms be established in 2008:

- Two farms for DSO/unit based activities, one Drupal-SMF and one MediaWiki farm
- Two farms for administrative activities or teaching activities that require the participation of external experts, one Drupal-SMF and one MediaWiki farm

Blackboard Greenhouse Grant: Developing PowerLinks

PowerLinks consist of code that reside on the DSO (Blackboard) servers and support single sign on with an external application such as MediaWiki or Drupal-SMF.

In 2007, ITL won a Blackboard Greenhouse grant to develop PowerLinks to integrate social software with Blackboard. Work took place in November and December of 2007 to develop code that will support PowerLinking a MediaWiki farm into DSO. A first draft of external server side code that extends existing PowerLink code from Edinburgh University (yet to be tested on DSO servers) has been developed for that purpose at the time of writing.

If testing, final development and piloting of the MediaWiki PowerLink is successful ITL and ITSD may be able to develop a Drupal-SMF PowerLink using the MediaWiki template.

Gallery Research and Development

Research into alternative Gallery applications was conducted in November 2007 to try to identify an application that better met the requirements of Faculty. Unfortunately, no open source gallery exists at this time that can totally meet all requirements of Faculty. Consequently, Gallery2 must be implemented and enhanced where possible in 2008.

Training and Support Resources

The provision of training and support to social software users in 2008 and beyond will be restructured to provide a scalable service that can be continually reviewed in order to meet with user needs. It is envisaged that ITL and ITSD will provide support and training in the manner presently used to support DSO:

- A comprehensive collection of online training and support guides
- The provision of regular group training workshops
- Promotion of the Teaching Support Service as a resource to support staff in matching social software technologies with pedagogy and learning outcomes
- Promotion of the IT Service Desk as a resource to support the resolution of technical issues relating to social software

Research

The pilot highlighted several opportunities for further research into social software including:

- Developing and sharing efficient and flexible assessment and feedback strategies
- Developing and sharing effective moderation and engagement practices
- Developing and sharing efficient time management practices for online teaching using social software in conjunction with DSO
- Developing a suite of case studies demonstrating best practice in the use of social software for teaching and learning

Planning and development has begun with ITL TSS and academic staff to address these research opportunities in 2008.

Major Project Tasks in 2008

Proof of concept and testing tasks took place in the latter stages of 2007 to identify scaleable systems for supporting social software going forward. To progress to full production in 2008 numerous tasks must be completed requiring effort from ITL, ITSD and KMD. A list of the major tasks (identified at the time of writing) is included below:

- Acquire and install an additional server to mirror the existing production server and support high availability
- Develop processes and procedures for ITSD, ITL, KMD and Faculty support and installation of social software sites
- Establish four farms on the production servers and refine existing interfaces and site management functionality to support agreed installation processes
- Test functionality, performance and security of MediaWiki, Drupal-SMF and Gallery
- Migrate existing sites to the production server farms
- Install semester one teaching and learning sites (unlikely to be PowerLinked but possibly farmed)
- Complete development, testing and piloting of the MediaWiki PowerLink (June deadline)
- Report progress of PowerLink development to Blackboard in writing in January and in person to the Blackboard community in July (at BBWorld Las Vegas)
- Develop and test a Drupal-SMF PowerLink (contingent on the success of the MediaWiki PowerLink development process)
- Develop an expanded suite of support materials and face-to-face training programs (to be delivered by Teaching Support Service staff)
- Develop procedures and policies for quick and easy creation of UMS accounts for external parties with ITSD and HR
- Establish an ITL research project into the use of social software for teaching and learning

Conclusion

The 2007 social software supported teaching and learning and administration sites at Deakin. The pilot production project documented a business need for wikis, a gallery and community portal sites. Research completed in the latter stages of 2007 confirmed that farmed MediaWiki and Drupal (with the addition of SMF) and stand alone Gallery software can be supported as production technologies in 2008. A development environment will also be maintained in 2008 to enable testing of new technologies and enhancements as required.

Appendix

2007 Production Sites[3]

Divisions, Institutes and Library

Site Name	URL	Description
ADWiki	http://www.deakin.edu.au/alt/ADWiki	Social Software Knowledge Base.
ITLWiki	http://www.deakin.edu.au/alt/itlwiki	ITL Knowledge Base.
Alt Deakin	http://www.deakin.edu.au/alt/altdeakin/	Social Software Discussion Community.
ITL Gallery	http://www.deakin.edu.au/alt/itlgallery/	A demonstration site used to show academics what Gallery2 is and does.
KMD Wiki	http://www.deakin.edu.au/alt/KMD-Wiki/	A wiki used as a knowledge base within the KMD, linked to the new KMD intranet site.
Library Guide	http://www.deakin.edu.au/alt/libraryguide/	A wiki used as a knowledge base by the Library.
Library News	http://www.deakin.edu.au/alt/librarynews/	A WordPress used as a newsletter for and by Library staff.
CMI wiki	http://www.deakin.edu.au/alt/cmiwiki/index.php/Main_Page	This wiki will be used to share information between Logistics staff on the Waurn Ponds Campus and Customer Service staff (DSA) at Greenwood Park in relation to Course Materials.
Teaching with Wikis - Workshop One	http://www.deakin.edu.au/alt/workshopwiki1/index.php	Participants must work together in a given period of time to • Negotiate task • Develop categories • Build a repository of information
Teaching with Wikis - Workshop Two	http://www.deakin.edu.au/alt/workshopwiki2/	Participants must work together in a given period of time to • Negotiate task • Develop categories • Build a repository of information
The Informer	http://www.deakin.edu.au/alt/informer/	A WordPress site that will be used to inform ITS help desk staff about events in their division.
Planning Consultation	http://www.deakin.edu.au/alt/pc/	A blog site used to gather feedback about the Strategic Plan.
Admin Info	http://www.deakin.edu.au/alt/	A wiki that is being developed as a knowledge base by DSL staff to aid in

[3] Sites shaded in grey were used for teaching and learning. Sites not shaded were used to support administration and communities of practice relating to teaching and learning.

Divisions, Institutes and Library		
Site Name	**URL**	**Description**
	admininfo/	administration tasks.
Library Wiki	http://www.deakin.edu.au/alt/librarywiki/	A wiki that is being developed as a knowledge base by Library staff to aid in administration tasks.
insims	http://www.deakin.edu.au/alt/insims/	A wiki to store knowledge relating to simulations for teaching and learning at Deakin.
Arlene Silvas	http://www.deakin.edu.au/alt/arlenesilvas	A Drupal for Arlene to blog to all KMD staff.
TSLT	http://www.deakin.edu.au/alt/tslt	A MediaWiki for all Deakin Staff to compile solutions to common Teaching and Learning issues and problems.
ascilite	http://www.deakin.edu.au/alt/ascilite	A Drupal for all staff on ascilite organising committees to communicate progress to members.

Arts		
Site Name	**URL**	**Description**
Suburb as Site Gallery	http://www.deakin.edu.au/alt/sas	An image gallery used by students studying ACM234 for the display and peer review of images.
Fun and Games Wiki	http://www.deakin.edu.au/fgwiki	A wiki used as a knowledge repository by students studying ACN108. Students compile information relating to Electronic Games.
DPA	http://www.deakin.edu.au/alt/DPA/index.php/Main_Page	A wiki to simulate a Publisher's Association. Student groups will act as publishing companies and each student will work on a book for their publishing company documenting their work in the wiki.
MoCap Wiki	http://www.deakin.edu.au/alt/mocap/	A wiki used as a knowledge repository by students studying ACN102.

Business and Law		
Site Name	**URL**	**Description**
Trading Room	http://www.deakin.edu.au/alt/tradingroom/	A site used by students studying a finance major who are enrolled in either MAF303, MAF384 or MAF311. Each student has their own blog and all students can comment on all blogs.
Academia	http://www.deakin.edu.au/alt/academia/	A site used by staff in B&L to discuss research cluster work in the faculty.
BIS	http://www.deakin.edu.au/alt/bis	A site used by staff in B&L to develop BIS unit content.
Bisblogs	http://www.deakin.edu.au/alt/bisblog	A site used by staff in B&L to blog about BIS unit content.

Education		
Site Name	**URL**	**Description**
SiMERR	http://lyka.its.deakin.edu.au/joomla-smf/simerr/index.php	A discussion based site that promotes science education in rural primary schools across Victoria.
CELE	http://www.deakin.edu.au/alt/cele/	A discussion based site that promotes the discussion of teaching and learning in schools in Iran, Pakistan and Australia by students studying for an education degree in these countries.
EXR780	http://www.deakin.edu.au/alt/EXR780Wiki/index.php/Main_Page	A wiki for students to document case studies relating to EXR780 and share them with other students to facilitate collaborative revision of their reports.
ed2wiki	http://www.deakin.edu.au/alt/ed2wiki/index.php/Main_Page	A wiki to support teaching and learning activities for a number of units within the Faculty of Education. The wiki is open to the internet and users do not need to register to edit the wiki.
GCHE-STALGS	http://www.deakin.edu.au/alt/gche-stalgs/	A Drupal that supports a virtual community for the GCHE Stalgs project.
Education	http://www.deakin.edu.au/alt/education/index.php/Help:Contents	A wiki to support the development of documentation within the Education faculty.
Arts Ed Stalgs	http://www.deakin.edu.au/alt/artsedstalgs/	A community site to support a research group for both the Arts and Education faculties.

GCHE Wiki	http://www.deakin.edu.au/alt/gchewiki/index.php/Main_Page	A wiki to support students studying the GCHE.
Ed-Commons	http://www.deakin.edu.au/alt/ed-commons/	This installation is used by Faculty of Education staff to communicate about faculty matters.
GoTellIt	http://www.deakin.edu.au/alt/gotellit/	A discussion site for Education faculty graduates to share their graduate teaching experiences with a community of practice.
EXR780	http://www.deakin.edu.au/alt/exr780wiki/index.php/Main_Page	A wiki for students to document case studies relating to EXR780 and share them with other students to facilitate collaborative revision of their reports.
Re-imaging futures in Science, Technology, Environmental and Mathematics Education	http://www.deakin.edu.au/alt/steme	To present both a coherent vision and an accessible point of access to the collective work of the *Re-imagining Science and Mathematics Education* research group.
Proteus	http://www.deakin.edu.au/alt/proteus	An internal forum to promote and support bigger picture thinking and information sharing about recent and future Web-based developments, e.g. social software and beyond.
Simerr	http://www.deakin.edu.au/alt/simerr	This SiMERR project will provide opportunities for students from remote rural primary schools to become part of a larger learning community via this common website.
Graduate Diploma of Teaching	http://www.deakin.edu.au/alt/gdt	A course Drupal to augment course-related issues and content management for the new course, E665, Graduate Diploma in Teaching.

Health, Medicine, Nursing and Behavioural Science

Site Name	URL	Description
HDS301	http://www.deakin.edu.au/alt/HDS301ClassProject/index.php	A wiki to facilitate class-wide collaboration in the unit HDS301. Students will work together to create an artefact (set of wiki documents) that describes an educational product.
Drugs, Crime and Society: Current Issues	http://www.deakin.edu.au/alt/dcswiki	A wiki for students and staff to collaborate on topics relating to the subject Drugs, Crime and Society.

HMNBS Wiki	http://www.deakin.edu.au/alt/hmnbswiki	To enable staff to gain some familiarity with a wiki so they can be better informed in deciding whether to use one in their teaching.

Science and Technology

Site Name	URL	Description
United Enterprises	http://lyka.its.deakin.edu.au/ueportal/	A support site for SIT301 that simulates a telecommunications company, United Enterprises.
TempleSim	http://www.deakin.edu.au/alt/templesim/index.php	A site that supports collaboration for a programming team. The team comprises IT, Architecture students and collaborators from an external uni.
AutoHazard	http://www.deakin.edu.au/alt/autohazard/index.php	A site that supports collaboration for a programming team. The team comprises engineering students and collaborators from an automobile manufacturer.
CDIO	http://seki.its.deakin.edu.au/uat/alt/cdio	CDIO paper creation collaborative space.