SPIDER Newsletter
November 2006 - May 2007

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SPIDER is a bespoke VLE delivering learning material, providing online support and departmental management tools to a wide sector of the University community.

This newsletter outlines recent innovations, updates and changes made to the system

Feel free to email comments or suggestions about SPIDER or this newsletter

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Hardwaring

The desktop PC that most of SPIDER was written on finally gave up around November 2006. The motherboard failed, so fortunately all the files on the system were easily transferred to a new system by simply taking the hard drive and placing it another PC – backups were in place anyway, but its nice to still have access to the original disk.

Considering the PC was around 6 years old, it had lasted well. This kind of thing usually puts you back a few weeks as you wait for a new machine to replace the defunct PC, but in my case, an even older laptop of 20th century vintage was pressed into service. Development plodded on using this aged device, which for the most part did the job, if in a somewhat slower fashion than usual. In the end a new machine arrived and normal service resumed.

Luckily such interruptions wouldn't plague SPIDER itself. The main server has a RAID 5 disk setup, giving resilience against single disk failure, but in case a similar fate to the old desktop's motherboard were to befall the server, a 'mirror' server waits quietly next to it ready to take over. The mirror server is updated automatically in real time, its database slavishly copying all the happenings on the master. It also copies all the files to its own RAID 5 array, duplicating the file system on the master.

The master also makes a 'dump' of the database at 3am every day, which is copied to the slave system and an external, removable hard disk (which is swapped every week), resulting in 3 copies of all the important data.
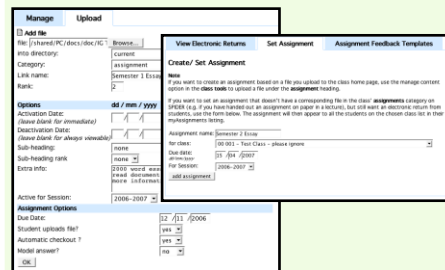
A second mirror server is sat under the desk in 'SPIDER central' waiting for a summer overhaul when we plan to try an update of the OS, database, scripting and web server software.

Updates and New Features
The assignments tool

The users of the Law cluster drove a number of new developments in the assignment tools on SPIDER, and around the end of January, a number of new features were tested and finally implemented on the live system. Our involvement with the REAP project
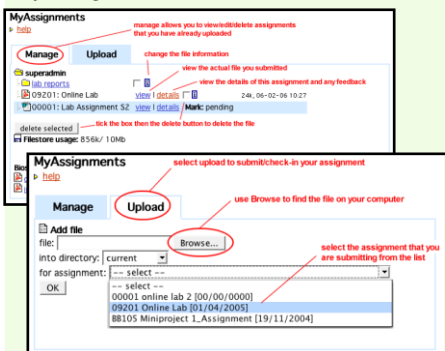
Assignments

Assignments can now be set up in two ways. The first way (old method - below left) involves uploading a file to the class 'assignments' category e.g. a word file outlining the task for the student. The
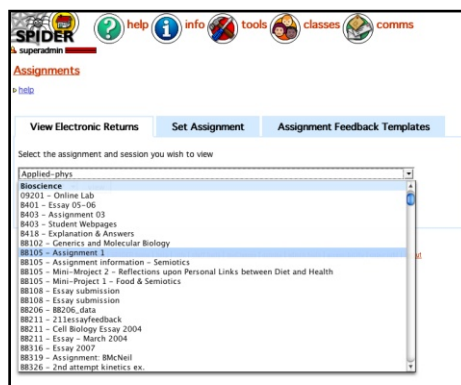

second way (new option - above right) of setting an assignment allows staff to simply create the assignment using the staff myAssignment tools. A place holder is put in the class assignments section. In both cases, the student submission method remains the same - they 'check-in' their assignment using the student myAssignment tool.

looking at changes to the feedback process also resulted in the development of a feedback template creation tool. This tool is integrated with the assignment tool, and was used for the first time with a year one pharmacy course in February. A number of improvements to the

template tool are planned following suggestions from the users. The
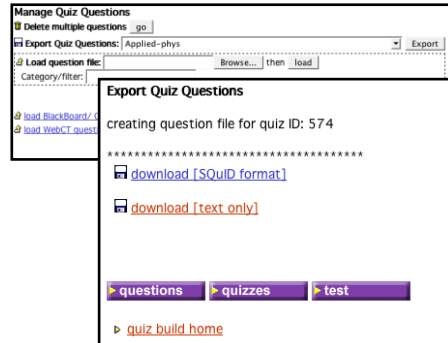
overall changes to the assignment tools include:
- option to allow anonymous marking
- option to upload an assignment file to the class to set the assignment (as before) or to simply auto-checkout for the entire class
- ability to assign a model answer (file) made available to the student after confirmed submission of their own assignment
- manage markers can now auto-add all staff in a department (e.g. for final year projects)
- assignment marks are now hidden until made live by markers
- peer marking/ review options now live (submitted assignments are automatically distributed within the class to allow students to mark others submissions anonymously)
- new feedback manager allows generation of re-usable templates that can be used to assign feedback to student submitted assignments

Quizzes tool
A number of users had requested that the quiz/question export tool would be modified to generate an output that was 'human readable'. The

current XML/SQL export was used as the basis for this and quizzes can now be exported in a simple text format which can be read in a web browser or any other document viewer or word processor.

Searches
The code behind the "user lookup" searches on the info/search page, staff counsellees "find", the group tool "add user" and the radiation systems of work "add user" tool have been updated. Users can now use basic Boolean searches if more than one word is entered e.g. putting in "John Smith" will now search for "John AND Smith". Typing in OR will make it do an "OR" search. Previously it would try and match the entire string in each

field of the related database table (so it would look for a match of "John Smith" in the surname field) which was limiting its usefulness.
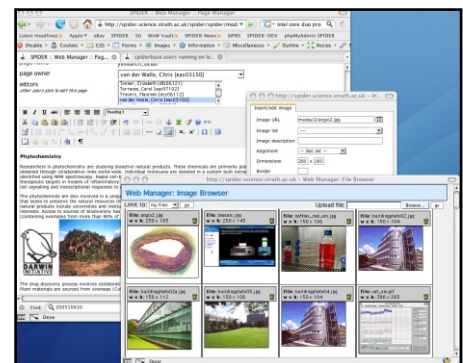
Radiation database
The radiation records database allows users to accurately record and report on the usage and disposal of materials they use in radiation based experiments. Originally used by Physiology and Pharmacology, the system was adopted institute wide when SIPBS was formed from the bioscience departments, in a move to unify practice throughout the institute. The system has been changed so it can account for the different radiation licences held within the institute, and a user manager tool added to improve the allocation of rights over the different aspects of the system. Minor cosmetic changes were made in addition to more involved developments in the underlying data structures and code base. Improvements made include: allowing for better label print options for disposals; updates to reporting tools; and updates to probe creation and management, amongst others.

Web manager
The SPIDER web manager tools have been used to manage the web sites of several departments for a number of years. These same departments have since merged in the formation of SIPBS and although the main SIPBS pages are hosted and managed using the central 't4' system, many sub-pages are managed via SPIDER, such as the seminars, news and staff pages. The web manager contains a WYSIWYG web editor tool to allow non-technical users to edit web pages. This part of the web manager tool has been changed from one open source tool (htmlArea) to another – tinyMCE, as htmlArea is no longer developed by its authors.
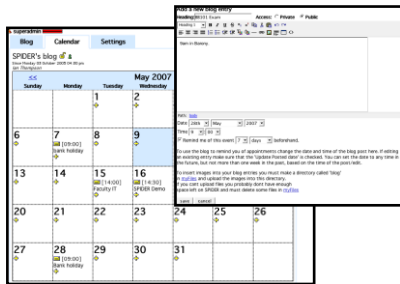

With this move have come a number of

advantages, as the improved API (the interface that SPIDER users to speak to the WYSIWYG editor) that tinyMCE provides has allowed better integration with the SPIDER web manager tool.
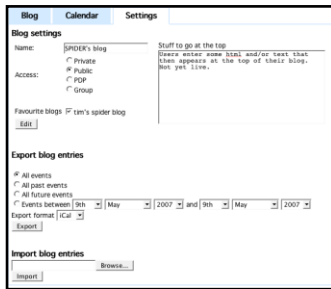
A vastly improved image/file manager has been devleoped and linking to pages within the site is more straightforward than with the old system.

Blogalendar
The blog tool has had more changes to its calendar features.

A reminder option has been added that alerts users to any upcoming events they have flagged when they login to SPIDER. There are also options to export items in 'iCal' or 'vCal' format which will allow users to then import their calendar into a PIM such as MS Outlook. An import feature is under testing.

Rx Tutor
The Rx (prescription) tutor has been developed as part to the School of Pharmacy's involvement in the REAP project. In December/ January, the third version of the system was released. It now caters for several new Rx types including 'interactions' (Rx with drugs that used together could cause unwanted physiological effects), veterinary Rx, emergency supplies, signed orders, GP10A and hospital Rx types. The scanned images have been replaced with real time

generation of Rx text onto standard backgrounds, giving far more scope in the content of the Rx. This also allows random generation of patient and signatory information (names, addresses, dates etc) resulting in a system that can present thousands of different Rx based tests to the users . The 'error choices' have been improved and an optional 'specific feedback' box has been added to
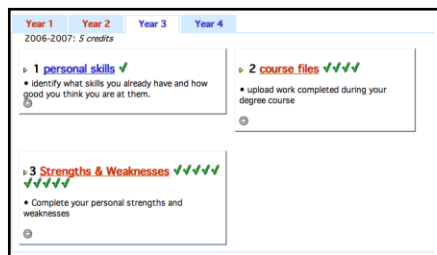

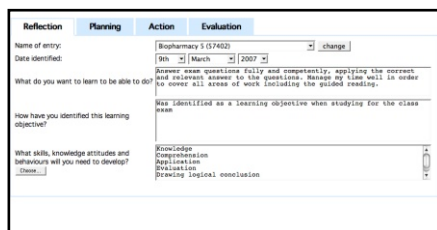improve the overall learning benefit for students.

A successful demonstration of the Rx Tutor at Robert Gordons by Dr. Anne Boyter has resulted in talks which may lead to a co-operative development of the system in the future.

ePDP
The ePDP allows development of specific extensions so that departments can fully customise the type of activities their students undertake in each year of study.

These extension now support the 'tick/cross' indicators that are used in the 'standard' ePDP to show students and staff at a glance the student's progress in the different sections of their ePDP.

A new 'Reflection and Planning' extension has been developed for the final year MPharm. The extension mirrors the CPD tool used that pharmacist in practice use.

Questionnaire tool
SPIDER can now generate a 'standard evaluation questionnaire' for all the classes on an entire cluster with a single click of the mouse. The questionnaire takes the form of one section (page) 'about the class' and one 'about lecturer X' section for each member of staff who teach on the class. Once an admin user has set up the 'standard section' (a single page of questions) for the class, and a single template for the lecturer section, a questionnaire is automatically generated for every single class on the cluster. This can be limited to semester 1 or 2 classes if preferred. The questionnaire created in this way is just like any other SPIDER questionnaire so can be modified by the creator in order to customise it further if required.

The tool has also been modified to allow users to copy individual sections. This is in addition to the existing option to copy entire questionnaires.

In development
SPIDER currently allows staff to enter class test and other assessment marks. These tools are going to be extended so that degree exam returns (normally sent as text files via ftp) can be managed using SPIDER. The Deptartment of Mathematics already have a web based tool for this task which is going to be used as the basis for the updates to the existing SPIDER tools.

Over the last serveral months, a number of bug fixes and other minor tweaks have been implemented. These include fixes to minor display problems with viewing student exam results and discussion forum postings; updates to the help pages/ documentation; updates to the file upload/ download code to handle non-safe filenames. We've also added some new standard functions to handle web form creation which helps to speed up the development process.

As always, feel free to contact us with suggestions and improvements:
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