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Using Plone To Support Collaborative Research

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I. THE CALIBRE WORK ENVIRONMENT (CWE)

The CALIBRE Work Environment[1] is the main, web-based, collaboration environment for CALIBRE[2]. It was required that this be a "leading-edge technological infrastructure"[3]for supporting collaboration, with particular focus on controlled dissemination and reuse. It was also important that the tool be a showcase for the power of open-source developed software. At its most basic level, the CWE is a simple installation of Zope[4] with Plone[5], using Apache[6], rather than Zope, as the web server.

The selection of a suitable content management system was crucial to the success of the CWE. The system had to be powerful enough to meet the demanding requirements of the CALIBRE project, but flexible enough to allow for continuous development of the environment. Various tools were compared for this and Plone was selected. Plone, by itself, provided a solution to most of the CALIBRE project's collaboration and communication requirements. The real power of Plone lies in its ability to be modified and extended with plug-ins.

Plone was modified with other open-source tools in order to support the work of CALIBRE. The CMFBoard[7] tool was added in order to provide support for forums and mailing lists. The I18NLayer and I18NFolder were added in order to support internationalisation of the portal and its content. The mxmWorkgroup[8] tool was added to Plone in order to provide workgroup support.

In combination, these tools provide a single, powerful communication and collaboration infrastructure to meet the demands of an international research project. The tool is powerful enough to remain robust, despite continuous development. It is also flexible enough to be reused in different contexts.

II. USE OF THE CWE

As a coordination action, the CALIBRE project involves 12 partner institutions with different requirements and characteristics. The CWE must, therefore, support a variety of users with different levels of technical expertise and expectations.

Currently, the CWE is supporting the activities of 21 registered researchers. The work is supported with a wiki and a mailing list per work package, plus all the other benefits of a content management system. By mimicking the structure of the CALIBRE project within the CWE it is clearer for users to find content. A dedicated wiki and mailing list were also setup for partners interested in the development of the CWE.

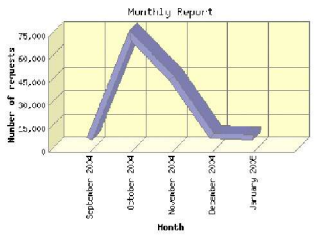
In order to assess the impact of the CWE on the wider community, some monitoring of user activity is being conducted. At present, requests to the hosting webserver are collected, archived to preserve raw logfiles for later examination and analysed with the Analog[9] and Report Magic[10] tools.

This approach is limited in that it allows us to determine what the users are doing with the CWE, but not the order in which they do it. Nor are we able to categorise users (eg. "heavy user", "just browsing") or how users in these categories may be expected to behave.

Uptake of the CWE has been slow over the first 6 months of the CALIBRE project. After an initial flurry of activity during the development of the CWE, usage has now dropped significantly. In particular, there has been almost no usage of the communication infrastructure provided by the CWE mailing lists. This is largely due to the existence of a CALIBRE mailing list that predates the CWE. Many CALIBRE researchers are members of this list and continue to use it, rather than taking the trouble to register with the new mailing lists. This is largely a matter of education and currently many users have failed to realise the key role that archival mailing lists could potentially play in the work of CALIBRE.

III. THE CWE IN ACTION

A. CWE Usage Statistics Reporting



	Month	Number of requests	Number of page requests
1.	September 2004	8,193	1,099
2.	October 2004	74,982	12,176
3.	November 2004	47,748	8,820
4.	December 2004	10,573	3,262
5.	January 2005	9,332	6,126

Fig. 1. CWE Monthly Usage Report

[1]http://hemswell.lincoln.ac.uk/calibre
[2]http://www.calibre.ie
[3]CALIBRE: Description Of Work
[4]http://www.zope.org
[5]http://plone.org
[6]http://www.apache.org
[7]http://www.cmfboard.org
[8]http://www.mxm.dk/products/mxmWorkgroups
[9]http://analog.cx
[10]http://www.reportmagic.org

	Organization	Number of requests	Percentage of the bytes
1.	lincoln.ac.uk	66,937	22.00%
2.	int-evry.fr	39,563	14.59%
3.	194.80	6,797	3.01%
4.	msn.com	6,182	32.02%
	msnbot.msn.com	6,182	32.02%
5.	club-internet.fr	5,224	1.07%
6.	humber.ac.uk	4,647	4.21%
7.	ntli.net	4,110	4.31%
8.	enst.fr	2,876	0.34%
9.	enst-bretagne.fr	2,037	1.40%
10.	googlebot.com	1,877	9.78%
11.	put.poznan.pl	1,653	0.67%

Fig. 2. CWE Access, By Operating System, Report

Figure 1 shows the monthly usage of the CWE since its launch in September. The graph clearly shows a peak of activity in October, during the height of the development. The table shows the increase of activity since the beginning of 2005.

Figure 2 indicates that the majority of users of the CWE are using Linux as their operating system.

	Organization	Number of requests	Percentage of the bytes
1.	lincoln.ac.uk	66,937	22.00%
2.	int-evry.fr	39,563	14.59%
3.	194.80	6,797	3.01%
4.	msn.com	6,182	32.02%
	msnbot.msn.com	6,182	32.02%
5.	club-internet.fr	5,224	1.07%
6.	humber.ac.uk	4,647	4.21%
7.	ntli.net	4,110	4.31%
8.	enst.fr	2,876	0.34%
9.	enst-bretagne.fr	2,037	1.40%
10.	googlebot.com	1,877	9.78%
11.	put.poznan.pl	1,653	0.67%

Fig. 3. CWE Access By Organisation

Figure 3 shows that the University of Lincoln is the largest user of the CWE. This can largely be attributed to the University's continuous development of the tool.

B. CWE Screen Shots

This section shows screen shots of the CWE itself and of specific functionalities that it offers.

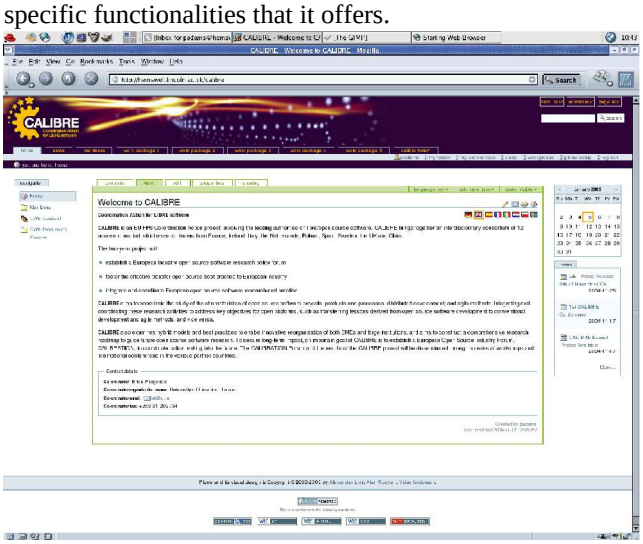


Fig. 4. The CWE Home Page

The forums (figure 5) within the CWE not only offer a functionality for discussions, but also double as the archiving tool for the CWE mailing lists.

Fig. 5. CWE Forum Support

Figure 6 shows the dissemination control within the mxmWorkgroup function. The workgroup tool allows for areas of the CWE to have specific level of dissemination to allow certain users greater or fewer privileges that they have in the rest of the CWE.

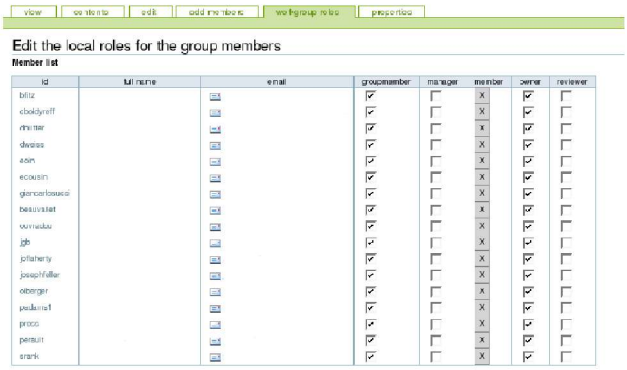


Fig. 6. CWE Workgroup Dissemination Control

The zWiki plug-in (figure 7) allows for the inclusion of wikis within the CWE. Internationalisation is very important to the CWE, allowing users of the CWE to find documents in their native language.

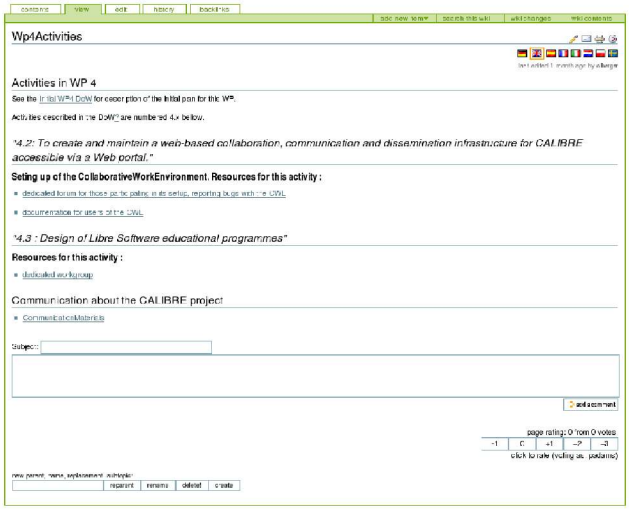


Fig. 7. CWE Wiki Support

Figure 8 shows the I18NLayer tool placed on each page of the CWE. Users can click on a flag and see the content of the page in the corresponding language, if possible.