

# A Virtual Learning Environment for UCL

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## 1 Executive Summary

### 1.1 Background

This paper reports on EISD's evaluation of two alternative virtual learning environments (VLE) to replace the current system. The paper is in two parts: the first part contains an overall summary of the evaluation and a recommendation for the new VLE; the second part is an in-depth analysis of each evaluation criteria and links to even further detail held on the web.

The report considers the findings of the VLE Evaluation Working Group – commissioned by ESCILTA to ascertain the features that staff and students require from a VLE – and incorporates these findings into a detailed feature comparison of two VLEs; WebCT CE6 and Moodle.

### 1.2 Recommendation

As a result of the findings of the report, ESCILTA is asked to endorse:

1. The adoption of Moodle as the UCL VLE.
2. The two-year adoption (migration) strategy (see Section 6)

Some of the background information presented in this report is based, with kind permission, on a similar report produced by the Centre for Learning Technologies at LSE.

### 1.3 Why Moodle?

Moodle is an open-source Virtual Learning Environment with a large number of users around the world. The number of users is increasing exponentially and more Higher Education institutions are considering Moodle as their institutional VLE, including the largest university in the UK, the Open University, who have pledged £5 million towards developing Moodle.

The recommendation for UCL to adopt Moodle is based upon the following areas:

1. Functionality and extendibility
2. Cost of licence
3. Technical support
4. Access for non-UCL users
5. Open-source

#### 1.3.1 Functionality and extendibility

EISD has performed a feature comparison of both WebCT CE6 and Moodle looking at eight key areas (see Section 4.2). The results showed that, functionally, both systems were capable of meeting the current requirements of UCL staff and students. However, as an open-source VLE, Moodle provides the flexibility to add new functionality, and UCL has the expertise to take advantage of this. Also, there is an active community of developers producing new modules for Moodle which UCL will be able to use.

### 1.3.2 Cost of licence

To run WebCT CE6, UCL would be required to pay 68,000USD per year as well as costs associated with integration with other software such as the plagiarism detection software TurnItIn<sup>1</sup>. There is no licence fee associated with Moodle and plugins to integrate with other software are usually free.

It is anticipated that the savings made on the WebCT CE6 licence fee could be put towards staffing resource to enable UCL to provide developers for Moodle.

### 1.3.3 Technical support

Technical support is an important factor in providing a key service such as a virtual learning environment. The technologies used for Moodle (PHP and MySQL) are also open-source and UCL support staff have extensive knowledge and experience of working with these technologies. WebCT on the other hand relies on a more complex configuration and requires a new Java-based technology called WebLogic for which UCL knowledge is not extensive.

### 1.3.4 Access for non-UCL users

UCL's WebCT licence allows only the creation of material specifically for UCL students or where UCL is a major partner in a cross-institutional collaboration. However, there have been occasions where UCL staff have needed to create material for courses not allowed under the licence e.g. Summer Schools, or for non-UCL, but academic, activity academics are involved in. As an open-source product, Moodle has no licence restriction and would therefore allow more flexibility for collaborative use of a VLE.

### 1.3.5 Open-source

Adoption of Moodle is in line with UCL's IT strategy<sup>2</sup> (October 2004) which encourages the use of open-source software (section 7.2.6).

*“Open-source software (i.e. software which is freely available to use, to redistribute and, if necessary, to modify) will be actively considered as an alternative to closed source proprietary software provided that it can supply equivalent functionality.”*

Based on the requirements of staff and students at UCL, Moodle provides functionality equivalent to that available in WebCT. In addition, there is functionality available in Moodle that either does not exist in WebCT or can only be added to WebCT by purchasing additional hardware and/or software.

## 1.4 Migration

An initial migration plan is outlined in section 6. It is recommended that the adoption of Moodle take place over two academic years (2007/08 and 2008/09). Information Systems will support departments throughout the transition period by providing technical input, training and support.

It should be noted that the effort required to migrate to Moodle will be greater than moving to WebCT CE6, however with good support and training from the LTSS, supported by FISOs, it is anticipated that disruption to staff will be reduced.

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<sup>1</sup> TurnItIn: <http://www.ucl.ac.uk/registry/ucl-staff/plagiarism/>

<sup>2</sup> IT Strategy: [http://www.ucl.ac.uk/eisd/downloads/it\\_strat\\_feb04.doc](http://www.ucl.ac.uk/eisd/downloads/it_strat_feb04.doc)

## 2 Background

### 2.1 The Need to change

UCL has been using WebCT for a number of years. The usage has grown from a handful of courses in 2000 to over 450 today (May 2007).

The current version (WebCT CE4) is reaching the end of its life and support from the company for this version at the current level (Category A)<sup>3</sup> will be reduced. When the evaluation started, WebCT announced that Category A support for CE4 would stop in January 2008. In February 2007, it was announced that Category A support would be extended until January 2009. Given the reduction in support levels provided by WebCT, it is not a realistic option to continue with the current version of the software as the main institutional VLE beyond January 2009.

WebCT CE4 is being replaced by a completely new and rewritten version, WebCT CE6<sup>4</sup>. This version is designed to be a modern "enterprise" virtual learning environment built on an industry standard database (Oracle). Given that the new version, is a completely new product, it appeared timely to review the institution's needs.

It was decided that, rather than simply adopt the next version of WebCT, it would be more appropriate to consider whether there were alternative products that would better support UCL's learning and teaching aspirations and needs.

A number of individuals and one entire department at UCL are using Moodle (an open-source virtual learning environment), and Information Systems have been running a pilot of this system, and providing some support to users, since the summer of 2006. A brief review of the VLE market failed to identify any other systems which would be serious candidates for UCL. Thus it was appropriate to focus the VLE evaluation on WebCT CE6 and Moodle.

### 2.2 The WebCT and Blackboard merger

Shortly after the evaluation commenced, it was announced that WebCT would merge with its main rival, Blackboard. This merger was in effect a takeover by Blackboard (the merged company is named Blackboard) giving it a dominant position in the commercial VLE market. A significant result of the merger is that Blackboard have pledged to maintain support for WebCT CE6 but that sometime in the future (expected to be in around three years' time) WebCT CE6 would disappear. It will be replaced by a "next-generation" product from Blackboard that will seek to combine the best features of WebCT CE6 with Blackboard's own flagship product, the Blackboard Academic Suite.

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<sup>3</sup> Details of support levels can be found at:

<http://library.blackboard.com/docs/support/supportsvcguid.pdf>

<sup>4</sup> Since the takeover of WebCT by Blackboard the names of the products have changed. WebCT CE6 is now officially known as "Blackboard Learning System - CE Enterprise Licence". However for the sake of clarity throughout this report the products will be referred to as WebCT CE4 for the current version of WebCT (used since January 2004) and WebCT CE6 for the "new" version being piloted.

## 3 The two systems

In this section a brief overview of Moodle and WebCT CE6 is provided as background to the rest of the report.

### 3.1 Moodle

Moodle (*Modular Object-Oriented Dynamic Learning Environment*,) is a free, open-source virtual learning environment. It was originally developed by Martin Dougiamas, a former WebCT administrator at Curtin University, in Western Australia. It is claimed to be designed on sound pedagogical principles that encourage student interaction and contribution.

#### 3.1.1 Moodle users

The number of Moodle sites has grown exponentially since June 2003 and there are now over 25,000 Moodle sites around the world; 47 of these sites have over 20,000 registered students. The site with the most courses is at the BRNO University of Technology, Czech Republic with 19223 courses and 41305 users<sup>5</sup>.

Users in the UK who are using Moodle as their main institutional VLE include:

- University of Bath (since August 2006)
- University of Glasgow (since July 2004)
- Goldsmiths, University of London (since June 2003)
- Open University UK (since May 2006)
- Royal Holloway, University of London (since May 2006)

In addition to this a number of UK universities have one or more Moodle sites run by individual faculties or departments, examples include the Department of Mathematics at the University of York and the Department of Geomatic Engineering at UCL.

LSE have recently undertaken a review of both Moodle and WebCT CE6 and have selected Moodle as their institutional VLE – they will start their migration some time before the 2007/2008 academic year. The University of London External Programme recently announced that they are replacing their current VLE with Moodle. A number of other universities are piloting or trialling Moodle.

#### 3.1.2 Moodle developers

Moodle is open-source and available under the GNU Public License. Anyone can therefore develop their own additions to Moodle provided that they make their source code available to the user community. There are a number of developers around the world (including 20 main developers), supported by a small team employed by Moodle.com who oversee developments.

In addition to individual developers, organisations such as Google and Microsoft have been involved in funding and developing new modules for Moodle. The Open University UK have become one of the main developers of Moodle contributing £5 million towards development.

New versions of Moodle are made available on a regular basis and there is a growing library of plugins and modules<sup>6</sup> (currently 178) which can be used to add extra functionality to Moodle installations. The Moodle roadmap shows the proposed additions in the coming months. Roadmap: <http://docs.moodle.org/en/Roadmap>.

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<sup>5</sup> Statistics taken from <http://moodle.org/stats/>

<sup>6</sup> Available at <http://download.moodle.org/modules/>

There are over 35 commercial partners supporting Moodle worldwide and providing services such as support, consultancy and hosting to Moodle users. Moodle partners pay the Moodle organisation a proportion of their revenue to support its continued development. Organisations using Moodle are also encouraged to donate.

## **3.2 WebCT CE6**

WebCT CE6 is part of the Blackboard Learning System suite of products and is a completely rewritten version of the WebCT product that has been used successfully at UCL for several years. The Blackboard Learning System is available at three different levels:

- Enterprise (the basic VLE )
- CE Enterprise (includes reporting modules and 24 hour support for clustered implementations)
- Vista (the full version of the product including multi-institution set up).

For the purposes of the evaluation, we have looked at only CE Enterprise as this is the version that best suits UCL's requirements and budget.

In addition to the Blackboard Learning System, the company also provide a number of other products covering portfolios, content management, portals, and performance and analysis tools as well as the VLE product from the original Blackboard company (Blackboard Academic Suite).

WebCT is now owned by Blackboard and this combined company is easily the largest supplier of commercial VLE products worldwide and holds a dominant position in the UK commercial VLE sector.

In 2006, Blackboard caused uproar amongst the e-learning community when the company attempted to patent a range of features associated with e-learning and launched a court case against a rival company claiming patent infringement. Following a letter of concern from EDUCAUSE<sup>7</sup> (one of the main organisations for technology in Higher Education), the company have made a patent pledge which states that they will not assert their patent against open-source software or home-grown systems that are not bundled with proprietary software.

### **3.2.1 WebCT users**

WebCT is being used by a number of UK universities, in the majority of cases Universities have opted for WebCT Vista following migrations from WebCT CE4. Current users include:

- University of Birmingham (WebCT since 2003; CE4 to Vista in 2005)
- City University (WebCT since 2003; Vista)
- University of Coventry (WebCT since 1999; CE4 to Vista in 2006)
- University of Edinburgh (WebCT since 2003; CE4 to Vista in 2006)
- Manchester Metropolitan University (WebCT since 1998; CE4 to Vista in 2006)
- University of Sheffield (WebCT since 2001; Vista in 2005)
- University of Stirling (WebCT since 1997; CE4 to CE6 in 2006).

Queen Mary, University of London are in the process of upgrading from CE4 to CE6 for the 2007/2008 academic year.

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<sup>7</sup> Report on EDUCAUSE letter from InsideHigherEd.com  
<http://insidehighered.com/news/2006/10/27/educause>

### **3.2.2 WebCT developers**

As a commercial product, WebCT is closed-source and developed in-house. The Blackboard Ideas Exchange is used to gather client feedback and requirements for subsequent versions. Institutions must apply to become part of the Exchange. The UK is currently represented by the University of Birmingham and the University of Coventry.

Despite being closed-source, developers can integrate external systems using the PowerLinks development kit. There is an active development community consisting of both WebCT clients and partner organisations. The PowerLinks showcase contains over 40 PowerLinks. In some cases, a payment is required for the PowerLink (e.g. TurnItIn - £680.00 + VAT).

## **4 The evaluation**

Two evaluation activities have taken place in parallel:

- (i) An academic-led working group has been set up and has reviewed the e-learning needs and attitudes of staff and students. This review will be presented to ESCILTA in a separate paper.
- (ii) EISD have conducted a feature comparison for a set of criteria (technical, pedagogical, functions and tools, management, migration) and has documented the outcome together with financial and support considerations. Section 4.2 presents the outcomes of the EISD evaluation.

### **4.1 VLE Evaluation working group**

The VLE evaluation working group delivered surveys to staff and students to investigate current use of e-learning, including views on the existing VLEs at UCL (WebCT CE4 and Moodle), and attitudes towards e-learning both in general and with reference to four key areas of activity: distribution of content, collaboration, communication and assessment.

An unofficial overview of the results shows no clear requirement for WebCT over Moodle or vice-versa. The survey results showed distribution of learning materials, and administrative information, as the most important activity for both staff and students. In addition, assessment (online quizzes and submission of coursework) and communication (discussion forums) were also seen as important.

### **4.2 The EISD evaluation**

The evaluation was conducted by a team led by the IS Applications and Academic Support Group Manager, and comprised user support staff from LTSS, VLE system administrators from the IS Applications Development section, and technical support staff from the IS Operating Systems Group. This team was best placed to conduct the detailed feature comparison of the two VLEs as they have been involved in installing, configuring, trouble-shooting, supporting and providing training in both systems since 2003.

The evaluation comprised a detailed feature comparison between the two VLEs. The feature-comparison is split into different categories:

### **4.2.1 Pedagogy**

This category includes eight elements: presentation, interaction, feedback, reflection, assessment, flexibility, support for autonomous learning/personal development planning, extendibility.

Of the eight elements, Moodle came out marginally better on two of them and both systems were considered equal on the other six. The evaluation team concluded that, overall, neither application was superior in the area of pedagogy.

The full set of results is presented at

[www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/pedagogy.html](http://www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/pedagogy.html)

### **4.2.2 Functions**

This category includes navigation, notification, multimedia, consistency, customisation, course design, accessibility.

Of the seven elements, Moodle was considered superior in notification functionality, WebCT was considered superior in the area of consistent navigation, and the packages were considered equal in the other five. However, overall, the evaluation team concluded that the packages were equal in the area of system functions.

The full set of results is presented at

[www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/functions.html](http://www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/functions.html)

### **4.2.3 Tools**

This category includes quizzes, surveys, assignments, calendar, communication tools, glossary, database, group sign-up sheets, lessons, wikis, peer assessment, grading forms, selective release.

For the most popular VLE tools, neither VLE was considered to be better. Moodle was considered to be superior for communication and database tools, whilst WebCT was considered to be superior at quizzes, surveys and file management. Both VLEs have tools that are not available in the other VLE (e.g. wikis in Moodle, Learning Module in WebCT), however it was felt that Moodle provided a wider range of tools.

The full set of results is presented at

[www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/tools.html](http://www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/tools.html)

### **4.2.4 Management reporting**

This category includes course reports and reports on tool usage.

WebCT CE6's management reports are significantly improved over WebCT CE4. Several new reports included with the software including activity summary, tool usage and course component usage. Whilst Moodle's management reports were considered adequate, overall it was felt that WebCT was superior in this area.

The full set of results is presented at

[www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/managerep.html](http://www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/managerep.html)

#### **4.2.5 Student management by course leader**

This category includes gradebook, registration, grouping and student tracking.

WebCT's gradebook was considered superior whilst Moodle's registration tools and reports were thought to be better. However, overall it was felt that the packages were equal.

The full set of results is presented at

[www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/studentmanage.html](http://www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/studentmanage.html)

#### **4.2.6 User management by administrator**

This category includes user roles, user database, enrolment, course database, course creation, announcements

Once again the packages were felt to be stronger in some areas and weaker in others. Overall, the conclusion reached by the evaluation team was that there was little to choose between the two.

The full set of results is presented at

[www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/usermanage.html](http://www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/usermanage.html)

#### **4.2.7 Technical criteria**

This category includes user authentication, interoperability with existing UCL systems, support for standards for reusable learning objects, standards for quizzes, scalability, system architecture, support arrangements, updates.

Both packages are able to integrate with existing institutional systems such as the student information system (SITS) and UCL's user authentication system (LDAP). Both support the common VLE standards. However it was felt that Moodle has a simpler technical architecture than WebCT CE6. WebCT CE6 uses a new Java-based technology called WebLogic for which UCL knowledge is not extensive. It also relies on an Oracle database, and requires an experienced Oracle database administrator to utilise full system functionality. Moodle is written in PHP and, in the UCL configuration, uses a MySQL database. Both PHP and MySQL are open-source and UCL support staff have extensive knowledge and experience of working with these technologies.

The full set of results is presented at

[www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/technical.html](http://www.ucl.ac.uk/learningtechnology/vle-evaluation/criteria/technical.html)

#### **4.2.8 Support**

##### **External support for WebCT CE6**

Support for WebCT is available from WebCT only. Over the last two years members of the evaluation team have made several support requests to WebCT and Moodle. Overall the conclusion was that WebCT support was problematic and patchy. In some instances the company failed to respond to support requests entirely and in other cases the response was slow and unhelpful.

The UCL experience seems to mirror that of other HE institutions and we are aware that a group of six universities have collectively written to the Chief Executive of Blackboard (WebCT) outlining a range of concerns with the support and performance of their products.

## External support for Moodle

As an open-source application there is no 'corporate support' for Moodle. However the large, active Moodle community effectively provides round-the-clock advice via online forums. The feeling of the evaluation team is that the support provided via this community was more than satisfactory. Additionally Moodle commercial partners provide formal support for institutions who wish to purchase it and, in the UK, professional Moodle support is available £1995 (based on a setup of one Moodle front-end and one database server).

### 4.2.9 Costs

This section considers costs of running each VLE. This includes software licence costs, the cost of hardware and the staff resource needed to effectively run each package.

Overall it was felt that Moodle would be significantly cheaper to run than WebCT. Whilst the hardware costs were largely the same for the two products, as an open-source product Moodle is effectively free whilst WebCT costs 68,000USD per annum. The evaluation team also noted that WebCT licence costs have more than doubled in the last four years (from 32,500 to 68,000USD) and there is no guarantee that cost will not double again in the next four years.

**Table 1: Costs of Virtual Learning Environments**

VLE	Software	Hardware	New staff resource required
Moodle	Free	1 x application server 1 x database server	None
WebCT 6	\$68,000 pa	1 x application server 1 x database server	WebLogic expert

## 5 Risk Analysis

The following section identifies some of the risks associated with the adoption of either WebCT CE6 or Moodle as the UCL virtual learning environment.

### 5.1 Moodle

The following table identifies the main risks associated with adopting Moodle and the effects on existing WebCT CE4 users.

**Table 2: Risks associated with the adoption of Moodle**

Risk	Risk level	Comment/Action taken to reduce risk
Functionality available in WebCT CE4 will not be available in Moodle.	Low/Medium	The LTSS have identified the key functionality missing from Moodle (e.g. selective release of materials) that are available in CE4 ( <i>see Appendix 1</i> ).  The Moodle roadmap shows plans for some of the missing functionality and other Moodle users are developing their own solutions and plugins which we

Risk	Risk level	Comment/Action taken to reduce risk
		<p>could install onto our Moodle. Moodle has a good track record of delivering items on the roadmap and produce new and updated versions on a regular basis. For example, at the user conference in July 2006 Moodle promised a new 'roles and permissions' system would be available in version 1.7, to be released in September 2006<sup>8</sup>. In November 2006 Moodle 1.7 was indeed released with these new features<sup>9</sup></p> <p>Information Systems has experienced PHP developers who could develop functionality for Moodle.</p>
WebCT users will set up their own WebCT installation.	Low	Due to the annual licence costs and hardware requirements, it is unlikely that departments will be in a position to set up their own installations.
Moodle users will set up new Moodles or maintain their existing Moodles.	Low	<p>Of the few departments who have their own Moodle installation, the majority have indicated that they will move to a central UCL Moodle.</p> <p>We would need to maintain a fairly flexible set up to allow users to request new modules and plugins to be added to a central Moodle. Issues would only occur where users wanted to add a module/plugin or modify the core code that would conflict with the UCL Moodle.</p>
Currently there is only one main Moodle version, however with many people developing their own versions of Moodle there is the possibility of more than one 'flavour' of Moodle emerging (especially with the large contribution of code from the Open University).	Low	Martin Dougiamas and the Moodle team approve all additions to the main Moodle and keep a tight control over the Moodle versioning. It is unlikely that another Moodle will emerge and users will be able to enhance their Moodles through the modules and plugins created by the community.
Moodle.com may decide to start charging for Moodle.	Very low	Martin Dougiamas has stated that Moodle will always be free and available under the GNU Public License. If it were to happen, the community could take the current version of Moodle and continue development.
Technical problems in migrating from WebCT CE4 to Moodle	Medium	Trial migrations using a tool developed by a former UCL staff member have revealed a number of issues with

<sup>8</sup> Moodle roadmap from Moodle User Conference:  
<http://www.ucl.ac.uk/learningtechnology/moodle/moodlemoot/Moodle+Roadmap.html>  
<sup>9</sup> Moodle 1.7 release information: <http://moodle.org/mod/forum/discuss.php?d=57989>

Risk	Risk level	Comment/Action taken to reduce risk
		<p>migrating courses to Moodle. The main migration problems related to quiz questions (calculated and matching formats), files and folders that are not directly linked into the WebCT course and the hierarchical structure.</p> <p>Considering the differences between WebCT CE4 and Moodle in terms of functionality, tools and structure, it is anticipated that some users will prefer to recreate their courses. Hence the migration plan allows two years for users to change. In addition, UCL staff can, with LTSS assistance, consider moving to Moodle as part of a review of their course before the new academic year. This would enable them to take advantage of the additional tools provided by Moodle (e.g. wikis, peer assessment).</p>
Discontent from WebCT users	Medium	<p>It is expected that there may be discontent from some users, in particular large-scale users of WebCT.</p> <p>To reduce the discontent, users will have at least two years to migrate to the new VLE with training and support from the LTSS on both technical and pedagogical issues.</p> <p>Where functionality is missing from the new VLE we will endeavour to provide the functionality in the new system or a suitable alternative.</p>
WebCT users unwilling to migrate to Moodle within two years	Medium	<p>WebCT users may feel that two years is not long enough to migrate or that the new VLE does not provide the functionality that they require.</p> <p>The majority of courses are mainly content-based with some communication features. Based on experience of migrating this type of course, it is believed that 2 years will provide sufficient time and opportunity to migrate all the existing WebCT courses (approx. 450).</p> <p>The LTSS will contact all existing WebCT users to identify their needs and concerns about migrating as part of the support and training available during the migration period.</p>

## 5.2 WebCT CE6

The following table identifies the main risks associated with adopting WebCT CE6 and the effects on existing WebCT CE4 and Moodle users.

**Table 3: Risks associated with the adoption of WebCT**

<b>Risk</b>	<b>Risk level</b>	<b>Comment/Action taken to reduce risk</b>
Functionality available in WebCT CE4 will not be available in WebCT CE6	Very low	The new version has been developed to take on board the requirements of existing users and has improved some of the functionality. In a number of cases tools have been removed, but have been replaced with improved versions (e.g. the Content Module tool has become a more flexible Learning Module where other tools can be integrated.  Appendix 2 lists the missing or modified functionality.
Functionality available in Moodle will not be available in WebCT CE6	Low	Moodle has been available to users as part of a pilot which was not guaranteed to continue after 2006/2007 academic year. Users signed a copy of the Moodle Service Definition to confirm their agreement with this. The number of Moodle users is small (only 30 active courses).  WebCT are continuing to develop their functionality through Application Packs. Institutions can use "Powerlinks" to integrate tools such as Wikis into WebCT, however this would require a Wiki installation to be provided in addition to WebCT.
Moodle users will set up their own Moodle installation.	High	Setting up a local version of Moodle is easy to do (it's freely available to download) and the hardware is cheap. Provision of a central Moodle would reduce the risk of this, however this would require a certain level of funding and support to maintain.
A new Blackboard product is expected in 2-3 years time. This will require another migration effort to the new system.	Medium	It is uncertain how similar the new version will be to WebCT CE6. It is possible that a new infrastructure will be required and moving to the new system will require a migration effort.
Technical problems in migrating from WebCT CE4 to WebCT CE6	Low	WebCT have provided a migration tool for converting courses to the new system. Experience of converting a handful of courses has shown that minimal effort is required to tidy up the courses after migration.
Discontent from Moodle	Medium	Moodle has been available to users as

Risk	Risk level	Comment/Action taken to reduce risk
users		part of a pilot which was not guaranteed to continue after 2006/2007 academic year. Users signed a copy of the Moodle Service Definition to confirm their agreement with this. The number of Moodle users is small (only 30 active courses).
Moodle users unwilling to migrate to WebCT CE6 within two years	High	It is likely that Moodle users will set up their own Moodles rather than migrate to WebCT CE6.
Technical problems experienced in running WebCT CE6 and inadequate support from the company	High	Other institutions have reported reliability problems running WebCT CE6. Also, a group of six universities have collectively written to the Chief Executive of Blackboard (WebCT) outlining a range of concerns with the support and performance of their products.

## 6 Migration to Moodle.

The following outlines the key activities that will be required for the migration to Moodle. A more detailed migration plan will be developed by Information Systems for internal purposes.

Migration will start in Summer 2007 ready for the start of the 2007/08 academic year. It is proposed that WebCT CE4 users will have two years within which to migrate to Moodle.

Due to the reduced level of support for CE4 (Category B) from January 2009, any courses intending to use the VLE for assessment purposes (e.g. online exams/tests or submission of coursework) after January 2009 must migrate to the new system before the start of the course.

All current users will be contacted and invited to move to the new VLE. One concern raised by academics is ensuring the consistency of interface for students (students already using WebCT CE4 should remain with this until the end of their degree programme). It is therefore proposed that all first year courses are migrated as a priority to Moodle.

All new users will be required to start using Moodle. Existing users may request new courses on WebCT CE4 only where it continues coverage for existing students (e.g. an additional 2nd year module).

### 6.1 Migrating courses

The LTSS will be responsible for migrating courses from WebCT CE4 to Moodle. This will be done using an automatic migration tool at the request of a user. The LTSS will support users with tidying up and reviewing their courses.

Where users choose to recreate their courses from scratch in the new VLE, documentation will be provided to assist them with exporting and importing items such as files and quiz questions. Users will be responsible for requesting a new course to be created on Moodle.

## **6.2 Support and training**

Starting in June/July 2007, the LTSS, supported by Faculty Information Support Officers (FISOs) will provide:

- Training courses - aimed at both new users and WebCT CE4 users.
- Drop-in sessions in the Open Learning Centre where staff will be able to work on their migrated courses with LTSS staff available.
- One-to-one support
- Documentation – getting started guides, migration guides.
- Test Moodle courses to enable users to familiarise themselves with the new environment.

# Appendix 1

## Summary of WebCT CE4 functionality missing from Moodle

The following lists functionality available in WebCT CE4 that is not currently available in Moodle and details how this functionality can be added. Typically items can be added to Moodle as either a 'module' or a 'block'

- **Navigation** - Moodle does not have a hierarchical navigation structure; every link appears on the main or course homepage.

### Main homepage:

- myCourses – this block can be added to provide a collapsible folder structure view for users to view their enrolled courses.  
<http://moodle.org/mod/data/view.php?d=13&rid=744>
- MyMoodle – this block takes users back to the main homepage.  
<http://moodle.org/mod/data/view.php?d=13&rid=778>

### Course homepage:

- 'Course menu' and 'Course Menu +' – collapsible/expandable navigation between sections/weeks displayed as folders.  
Course menu: <http://moodle.org/mod/data/view.php?d=13&rid=429>  
Course menu +: <http://moodle.org/mod/data/view.php?d=13&rid=747>

- **Selective Release**

- There are two modules ('activity locking' and 'score lock') that can be added to Moodle installations to lock activities and resources in a Moodle course based upon set criteria or scores.  
Activity locking: [http://docs.moodle.org/en/Activity\\_Locking](http://docs.moodle.org/en/Activity_Locking)  
Score lock: [http://docs.moodle.org/en/Score\\_Lock](http://docs.moodle.org/en/Score_Lock)
- Moodle developers are currently working on a 'conditional activities' module which will work in a similar way to the selective release functionality in WebCT CE4. This is expected in Moodle v2.0 due for release in late 2007.  
[http://docs.moodle.org/en/Conditional\\_activities](http://docs.moodle.org/en/Conditional_activities)

- **WebDav**

- There exists a WebDAV extension for Moodle, however this does not appear to have been widely tested. It would require testing to ensure reliability and security. This is not on the roadmap, however there appears to be a number of users requiring this feature.  
<http://moodle.org/mod/forum/discuss.php?d=41217#p189809>  
(requires login to moodle.org)

- **Surveys**

- There is a Questionnaire module currently available which allows users to create their own surveys.  
[http://docs.moodle.org/en/Questionnaire\\_module](http://docs.moodle.org/en/Questionnaire_module)
- UCL has a licence for Opinio which can be used for creating online surveys. This software is much more sophisticated than the functionality in CE4 and surveys can be added to Moodle courses as links. <http://www.ucl.ac.uk/learningtechnology/opinio/>

## Appendix 2

### Summary of WebCT CE4 functionality missing from WebCT CE6

The following lists functionality available in WebCT CE4 that is either not available in WebCT CE6 or requires a different tool to be used to re-produce the same functionality.

- **Image database (adding custom fields)**
  - The image database has become the Media Library tool. The ability to add custom fields to the database is no longer available. Blackboard do not have any plans to add this functionality, however a request has been submitted to Blackboard.
- **Index tool**
  - This enabled staff to create an index of pages within the WebCT course. This tool is no longer available, however this is not key functionality as few people used it. Users can use the Search tool to locate files.
- **Resume course**
  - This allowed students to navigate directly back to the last page of content that they visited. This tool is no longer available, however this is not key functionality.
- **Student homepages**
  - This tool is no longer available; the Assignments tool can be used to provide similar functionality. CE6 provides a basic profile feature for users which is being extended as part of Application pack 2 (not yet released) to include the ability to add a photo to a profile.
- **Student presentations**
  - This functionality can be catered for using the Group assignment feature of the Assessment tool.
- **Student tips**
  - This tool is no longer available; the Announcements tool can be used to provide similar functionality.