Preamble: This document is the result of extensive discussions and some actions within the University during the Academic Year 2003/04 after the matter of VLE/MLE provision was brought up via the IS/IT Steering Group, and subsequently at the LTB. It serves as a report to the LTB and IS/IT Group on the pilot scheme run by EPS in 2003/04, and contains plans, adopted by LTB for a staged approach to VLE implementation in the University.

By VLE is meant the electronic components associated with teaching and learning, and this includes the delivery/mediation environment as well as the content and its associated development tools. The adoption of a single University VLE does not preclude the use of existing developed content of various kinds, including that authored in .xml or other “rich” formats.

By MLE is meant all of the electronic components associated with T&L, including the VLE, library, student records, support, timetabling and registration and admissions systems. This document is not concerned with MLE development, although it should be noted that a properly linked MLE can deliver great benefits to the users of a VLE, viz the students and academic staff of the University.
PROJECT DESCRIPTION

The ultimate aim of the project is to set up a University-wide Virtual Learning Environment (VLE) in Heriot-Watt University, to be used to enhance on-Campus T&L and improve reach and flexibility for both staff and students. The strategic statement of intent is included in the parallel LTB document LTB/04/37 (a).

There has been considerable discussion about VLEs amongst the many interested parties within Heriot-Watt. A strong consensus has emerged that the introduction of a VLE is an essential development. This project is therefore not concerned with assessing or justifying the benefits of a VLE per se, but with the practicalities of achieving the agreed aim of cost effective implementation and good educational practice.

A VLE will have such a significant and wide-ranging impact across the institution that its selection and implementation are of major strategic importance. A phased approach is therefore proposed to ensure that any investments meet the requirements of the participating schools. These requirements might vary from the development of entirely self-contained on-line modules to “blended” elements serving part of the needs of one or more module. The uses might vary between distributed, distance and on-Campus support but, in all cases, the key deliverable is flexibility of both teaching and learning.

The project will consist of 3 phases:

Phase I: A limited self-contained pilot to introduce a VLE within the School of Engineering and Physical Sciences (EPS)

Phase II: An extended contained pilot to a) support ongoing work undertaken in EPS and b) pilot a limited number of modules as either blended or self-contained in the other schools

Phase III: Selection of the products for a University-wide VLE that best match the strategic aims of schools and institutes

Phase IV: The full scale rollout of the University-wide VLE

The advantages of phasing in this way include:

- early start date - EPS had a requirement to acquaint staff and students with the benefits of a VLE as soon as possible, and to commence development of a subset of its modules.
- a two-phase pilot will ensure that functionality and applicability are properly assessed for all schools
- initial costs and risks are lower, the set-up process is less complex and more rapid for a small scale pilot, and such a self-contained pilot can be very flexible and responsive to feedback
- software licencing - costs are related to size of implementation, e.g. with WebCT it is cost effective to start with the entry-level (Campus) and migrate to the corporate level (Vista)
- risk management - before commitment is made to the full scale implementation, the feedback from the pilots will contribute significantly to:
  - planning of resources - academic, technical and administrative support
  - selection of best product(s) - suitability, scaleability, performance, cost, etc. at corporate level
  - service delivery and support - design of hierarchical structure at corporate level

1 Members of the IS/IT Steering Group, the Learning and Teaching Board and its Sub-groups, academic and support staff within EPS and other Schools.
In Phase I the scope and schedule were necessarily contained to match the initial resource available. Phase II builds upon the work undertaken in EPS and extends the project to the wider community of Heriot-Watt. The feedback from these previous phases will then be used to assess the resources needed for and to schedule Phase III. In turn, feedback from Phase III will contribute to the planning of Phase IV.

The pilots will retain the ultimate aim of an institution-wide VLE, with such factors as scalability, accessibility, corporate standards and quality of service being given prominence where appropriate. It is important that the pilots include an agreed and specified methodology for monitoring, evaluation and reporting and, as such will have to be managed by a University-wide group.

**Phase I : The self-contained piloting of a VLE within EPS (AY 2003/04)**

EPS identified some time ago that using a VLE would allow it to:
- offer PGT programmes more widely and more flexibly, for a small input in staff effort and at low cost
- support on-Campus programmes more efficiently and effectively
- ease the administrative burden associated with T&L
- offer students at all levels opportunities for part-time or accelerated study
- improve communication with students
- interface with library and other University services within a single environment

It was recognised at the outset that VLE development involved several components; content development, T&L implementation, and technical set-up and support, including linking with other systems (such as the Library and ISS). Acquisition of a support programme was seen as akin to obtaining a word-processor, i.e. an essential element without which no teaching and learning could be done, whereas content development was seen as something which could be done separately and as a parallel activity to T&L. The first year objectives, therefore were:

1. To acquire and set up a VLE shell: This involved the specification and tendering for the shell and for the server, the installation of the software, the training of a group of pilot academic staff, and making links with ISS and authentication system.
2. To set up, for each of the five EPS subject groups, a “First Year Conference”, mediated by the Director of Studies and containing pastoral and pedagogic material. The main objective of this was to get all first year students in the School used to using a VLE in a positive and beneficial way.
3. To port all ready or near-ready content into the VLE: The material in question was much of the Masters portfolio and materials which had been developed under the Scholar programme.
4. To offer to any member of staff of EPS a module space to experiment with.

In addition to these objectives, EPS has tried to offer (after seeking the permission of the licensor) space to ex-School participants who wish to try out use of a VLE. To date, this has involved MACS, SBE, Library and Careers Service.

All of the above objectives have been achieved, and EPS now has 166 registered modules. The most successful aspects of the project were items 1, 2 and 4, and 3 has been hampered a little by difficulties in
obtaining authorization for some of the content from IU, which we hope to be able to do in time for implementation the AY 2004/05.

Phase II: The development of the pilot to include all schools and PGIs\(^2\) (AY 2004/05)

This phase will be an extended contained pilot to a) support ongoing work undertaken in EPS and b) pilot a limited number of modules in the other schools. The development of the detailed plan will be a matter for the project group, but it is expected that the system (including staff resource) developed under Item 1 in Phase I will serve for around two additional modules per school. It is possible that some schools may wish to do more than this, and the capacity of the system will be evaluated once each school has taken up its quota.

EPS will continue modules already developed and have as its focus second year undergraduate programmes and new PGT programmes developed by its new Graduate School. Each school, including EPS will receive support from EDU for its two nominated modules. These modules (and the academic staff involved) will from a nascent “Community of Practice” fostered by EDU, and concentrating on pedagogic aspects of VLE development. It is expected that the community will hold regular seminars, attend training and development and also to disseminate its findings to the wider University.

Phases III and IV: Rollout of the VLE across the University (AY 2005/06)

These phases will depend upon the output of Phases I and II to arrive at a functional specification for the University-wide VLE. The project Steering Group will be responsible for the gathering of the specification and the tendering process, as well as the assessment of resource implications. Prior to embarking upon this stage, specific PME approval will be sought from PME by the LTB, itself acting for each of the constituent schools.

DELIBERABLES

Each phase will be deemed complete with the following broad deliverables.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Title</th>
<th>Deliverables</th>
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| I     | Self-contained pilot of a VLE in EPS | A limited working VLE in EPS  
A report to the LTB and IS/IT Steering Group  
(essentially contained in this draft) |
| II    | Extended contained pilot across schools | Experience of using a VLE in all schools  
A report to the LTB from the Steering Group  
containing the functional specification |
| III   | Functional specification of the VLE | Proposal from LTB and PME |
| IV    | Rollout of the VLE across the University | A working VLE across the University  
A final project report to the LTB and PME |

\(^2\) It is possible that this will be with the exception of EBS, which already has its content fully developed and uses a VLE shell provided through an external publisher.
RISKS
The following risks to the successful implementation have been identified:

External Risks

<table>
<thead>
<tr>
<th>Area</th>
<th>Impact</th>
<th>Likelihood</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery times for software and hardware</td>
<td>Medium</td>
<td>Low</td>
<td>supplier selection</td>
</tr>
<tr>
<td>Solvency of software and hardware suppliers</td>
<td>Medium</td>
<td>Low</td>
<td>supplier selection</td>
</tr>
<tr>
<td>VLE product unsuitable</td>
<td>High</td>
<td>Low</td>
<td>specification, selection</td>
</tr>
</tbody>
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Internal Risks

<table>
<thead>
<tr>
<th>Area</th>
<th>Impact</th>
<th>Likelihood</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff availability is less than expected due to competing demands</td>
<td>High</td>
<td>Medium</td>
<td>line managers, DoT&amp;Ls, adjusting priorities</td>
</tr>
<tr>
<td>Delays adversely affect student learning and academic timetable</td>
<td>High</td>
<td>Low</td>
<td>project scope and schedule</td>
</tr>
<tr>
<td>Quality of service delivery adversely affects student learning</td>
<td>Medium</td>
<td>Low</td>
<td>specification, administration, academic support environment, QA procedures</td>
</tr>
<tr>
<td>Quality of content adversely affects student learning</td>
<td>High</td>
<td>Low</td>
<td>academic support environment, training, pedagogic design</td>
</tr>
<tr>
<td>Academic staff take up is poor</td>
<td>High</td>
<td>Low</td>
<td>encouragement, training</td>
</tr>
<tr>
<td>Student take-up is poor</td>
<td>High</td>
<td>Low</td>
<td>Appropriate use, tangible benefits</td>
</tr>
</tbody>
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RESOURCES
It is assumed that normal use of the certain resources will be available as required without cost to the project, e.g. staff offices, meeting rooms, travel, telephone and desktop computing facilities.

For Phase I the physical environment for the hardware and software necessary for the VLE and its network connection will be provided by EPS, within one of their buildings.

Access to the VLE through the standard web browser on PC Caledonia, or via the University's internet connection will be provided and supported by Computing Services.

For Phase II the physical environment for the hardware and software necessary for the VLE and its network connection will be provided by EPS, within one of their buildings.

Access to the VLE through the standard web browser on PC Caledonia, or via the University's internet connection will be provided and supported by Computing Services. EPS computing staff will continue to support academic staff and users across the university.
For Phases II and III the hardware and software for the VLE and its appropriate network connection and access will be provided by Computing Service, within the Computer Centre at Riccarton.

All additional equipment costs specific to the support of the VLE hardware or software will be met from schools’ budgets, e.g. new servers, backup media, and racking (if needed).

For Phase I and Phase II, other costs will be borne by the EPS or Computing Services budgets, e.g. staff effort for backup and systems and network level support. In addition EDU will provide training, development and pedagogical support. They will undertake to ensure that evaluation is duly conducted and that reporting is undertaken.

It is anticipated that additional staff resources will be needed for Phase IV. The level of additional resource will be costed in later versions of the plan for inclusion in the Phase III project budget.

People

The human resources requirements for this project will involve combined effort from staff from:

- PME, in management role to ensure harmony of IS/IT and School Strategies
- EPS, in development of its own plans for VLE implementation and participation in University project
- CIS, in assisting in various aspects of linking VLE to developing MLE
- Computing Services, in assisting with aspects of authentication, and eventually hosting University-wide VLE
- Purchasing and Supplies Services, in tendering process for software and hardware
- IS/IT Steering Group, in keeping itself informed in order to develop its strategy
- Learning and Teaching Board, in monitoring and steering the project
- Educational Development Unit, in developing a Community of Practice
- Academic Registry, in developing links with student records
- Schools selected for Phase II secondary pilot, two members of academic staff per school

PROJECT MONITORING

The project will be overseen by the Learning and Teaching Board, which will receive regular reports from the Project Manager. For Phase II, the project working group will be convened by the Project Manager (Dr Belinda Tynan), and will consist of participating members in all schools, along with representatives from EDU, Library, CS and CIS. There will also be a member of technical support from EPS on the project team for Phases 1 and 2.