

Project Name	TLE 2.0, University of Strathclyde
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Reporting period	First interim report – July 2006 to October 2006.

Section One: Summary

Project Overview

The TLE2.0 project will create the second iteration of an environment for professional learning – an open-source, open-standards transactional learning environment – and will engage in large-scale evaluation of the implementation of this environment. Professional and vocational courses are taken by well over 50% of the full-time undergraduate population in HE: TLE 2.0 has the potential to enhance such courses, and deepen the professional experience of students through use of simulations. Our project will design the open-source, open-standards version of the TLE, implement it across a number of disciplines within the University of Strathclyde and external UKCLE partners, will evaluate student learning within the environment and disseminate the results of the evaluations. The project will last for two years, thereafter the TLE will be freely available to other professional and vocational schools in HE and FE. The project will contribute to the Innovation Strand of the JISC E-Learning Programme in a number of ways:

- it will provide a highly innovative learning environment for professional learning across a wide range of disciplines that will use the design and application of gaming technologies
- the cross-curricular implementation within an institution will be a springboard for further and wider implementations across curricula and institutions in HE and FE.

TLE2.0 Project Progress

Overall, after 3 months, the project is progressing well, on plan and on budget with a number of specific areas actually ahead of schedule. At this stage of the project, as can be seen from the defined work packages (WP), substantial work has been undertaken in the following areas:

- definition and subsequent planning of the transactional learning project (WP2).
- definition and implementation of the technical environment to be used in the development and use of TLE2.0 (WP3 and WP4).
- through consultation with our client groups, the development of a functional specification requirement document for TLE2.0 (WP3 and WP9)
- development of our client stakeholders narratives to aid both TLE2.0 development and planning in the longer term implementation of TLE2.0 with these groups (WP 10).
- dissemination of project publicity to a raft of stakeholders across HE, FE, Governmental and private organisations (WP12)

Key Developments

- Utilising approximately £2.5K of BILETA funding, the TLE2.0 project officially started with a 2 day retreat at the University's Ross Priory facility on Sunday 11th and Monday 12th June. Representatives were present from JISC, UKCLE, Nesta FutureLab and the core University team as well as all project partners known at that time. Through presentations, working groups and discussion, the time was spent examining various aspects of the TLE2.0 project, and transactional learning in general. Valuable progress was also made in starting engagement with project clients in the production of their TLE 2.0 narratives. The event was agreed by all to be a significant success and provided a valuable base to build on. BILETA took receipt of a formal report on the findings from the proceedings and are keen to remain involved in the project.

- TLE2.0 has combined with a number of Dutch Universities in a successful joint project research bid to the Dutch Ministry for Economic Affairs - this has attracted a further 50K Euros to the TLE2.0 project. In 2002, the Dutch Government funded RechtenOnline Foundation, a group of 14 Universities in the Netherlands, in the 18-month development of a TLE for Dutch law schools, called Sieberdam. Strathclyde University have been liaising with Sieberdam on an international business project for some time. However, some weeks ago, an approach was made by representatives from Seiberdam to Professor Maharg indicating that whilst funding for the initiative was coming to an end, an opportunity for a further 1.2M Euro funding from the Dutch Govt was available for projects involved in simulation and transactional learning. One pre-requisite of the bid was the need for matching funding. With a deadline of 1st Sept 2006, Professor Maharg described the situation to our JISC / UKCLE funding partners, asking that the £200K TLE2.0 funding could be put forward in this respect. Agreement was reached and a bid indicating the development of a European standard for simulation engines for professional education was entered. This bid has proven to be successful: five projects were funded out of a total of 47 entries.

It is not expected that this joint project will impact significantly on TLE 2.0, and will mean that we now have an international project partner at no financial cost to ourselves. With this success, it is hoped that TLE2.0 now has a better international base for obtaining larger European funding to allow for further expansions in functionality.

- Conversations have started with Lenovo, the University laptop suppliers, with regard to potential sponsorship of the project through the provision of mobile technology. This will hopefully impact on the later stages of the project, although early provision could see mobile technology being distributed to project partners to further enable narrative development work.

Deliverables / Outputs

- An extensive project web site has been live for a number of weeks now at URL: <http://technologies.law.strath.ac.uk/tle2/>. The site is kept up to date regularly and is being used to communicate with our project partners through announcements on progress, questionnaires, a substantial download facility and also the publication of shared resources that will aid our partners in their narrative development work. Additionally, project management is being facilitated via this site through the use of a secure project Wiki. This invaluable function provides detailed updates for the core team on progress and a repository for planning documents.
- Some rudimentary work has also been completed by Michael on developing the TLE2 tools and platform and there are now BASIC skeleton systems in place, which we can flesh out with complete functionality over the next couple of weeks/months. This is valuable work that will provide prototyping and learning tools for other members of the development team and is well ahead of schedule at this stage. The systems will again be made available via the project WEB site in due course.

Staffing

- One of the major risk points in the early stages of TLE2.0 was the planned appointment of a 1 year software development post. This post has a major role in the production of TLE2.0 and the skills requirement for the post are highly technical and specific – thus giving rise to the risk of not being able to appoint at the planned budgetary level. However, the University has undertaken a selection process over the past two months and from a short list of 6, has appointed Mr Gavin Maxwell. Gavin has the required experience and technical skills and the University is delighted with his appointment, which is due to commence on October 30th 2006. Initial planned areas of work for Gavin include the user narrative development tool, as well as core TLE2.0 elements.

Section Two: Activities and Progress

Narrative Development

One of the planned major activities in the early stages of TLE2.0 is the development of our client group narratives. These stories are being used to elicit functional requirements for the TLE2.0 software package and also allow academic colleagues to plan for later implementation in year 2 of the project. A significant amount of progress has been made in this area, both in terms of narrative or swim-line development and also with respect to the development of the tools and processes used to support this user driven process. At this stage all client groups have met with representatives of the core team at least once to aid development and discuss any issues. The process of developing the swim-lines has been a useful one for each institution in formulating their ideas and understanding the process.

The University has taken receipt of documentation from all client groups and it is clear that significant work has been completed. Deadline for the completion of this work is November 2006. Since the end of August the Law Groups have been drafting and refining their swim-lines to ensure that the specification required is made clear to the technical team at Strathclyde. Assistance has been provided through UKCLE and two meetings have taken place at Bristol and Glamorgan. Another meeting is planned at Warwick for the 26th November. Two of the partner institutions (UWE and Warwick) are developing their TLE in Law and Practice type modules using existing projects which have previously been paper-based. As such they have the infrastructure for the case studies available which is helpful as there are a number of projects within each module. Each of these will have to be incorporated into the TLE with resulting resource implications. Swim-lines which match their current projects have been produced ensuring that the authenticity of the project is enhanced and the associated micro tasks are identified. The third partner institution (Glamorgan) has chosen to use a project initially developed at Strathclyde – the Personal Injury Project- and plans to integrate this within a Tort module. This is particularly challenging as it will consider not only the acquisition of skills but also the learning of substantive law at undergraduate level and the assessment issues that will require to be addressed.

A Law Group meeting has been scheduled at Bristol for the 22nd November to discuss each project in the light of the feedback before finalising the documentation. The next stage after Christmas will be to prepare the content for populating the templates etc within each case study

Additionally, meetings have been held by core team members with Glasgow University Law School, our most recent law partner, the Architecture group and also the Social Work group. All meetings concluded with the core team having sufficient information for a very detailed narrative diagram of the specific scenario to be constructed.

In summary, excellent progress is being made in this area.

System Architecture

A number of activities have been undertaken with regard to the specification and initiation of the project development environment. At this stage of the project, these activities are on plan and on budget with respect to our work package specification. Four main areas are detailed here:

- Software development environment

The technical team have completed their analysis of the technical development environment as per the planned completion date of October 20th 2006. The server side components of TLE 2.0 will be coded in PHP, taking advantage of the cross-platform/open source availability of the LAMP/WAMP platform (Linux/Windows, Apache, MySQL & PHP). Adobe / Macromedia Dreamweaver (v8) has been selected by the technical team as the main development tool on the grounds of functionality and availability. The client side tools, which in the first instance will be MS Windows application based, will be coded in C# and will leverage the Microsoft .NET 2 framework. Microsoft Visual Studio is the chosen integrated development environment (IDE).

- Development Server Environment Installation Report

The development server platform has been successfully deployed as per the planned date of October 20th 2006. It has been deployed as a 'virtual' rather than physical server, taking advantage of the Law Schools recent acquisition of VMWARE ESX virtualisation software and two dedicated high performance DELL 2850 servers, detailed below -:

ESX server hardware specification

DELL 2850, 8 Gb memory, 2 x 3.8 GHz XEONS, 1 Tb Disk Storage
DELL 2850, 8Gb Memory , 2 x Dual Core 2.8 GHz Xeons, 1 Tb Disk Storage

The TLE 2.0 Development server is initially provisioned as a single 2.66 Ghz Xeon, 1 Gb Memory single server WAMP solution. i.e. A **Windows** OS (2003 Server), **Apache** Web Server, **MySQL** and **PHP**. This rather modest virtual server platform can be 'upgraded' to utilise more of the physical servers resources and can be re-configured as a multiple virtual server setup (small server farm), i.e. separate Web Server and Database Server. One of the many advantages of this virtualisation approach is the ability to more accurately determine the optimum physical server requirements for real world deployments by fine tuning and testing several virtual hardware specifications and configurations without the need to acquire additional hardware.

- Recommended client system requirements

In terms of the ultimate client users of TLE2.0, a request was received from one our partners to define the system requirements for users. The client team have undertaken this work and produced the following -:

Supported web browsers: Latest version of any mainstream standards compliant browser. E.g. Firefox, Mozilla, Microsoft Internet Explorer (Windows only), Opera & Safari (MacOSX).

Operating system (OS): There is wide OS support for the above browsers. E.g. Firefox, Mozilla and Opera are available as Windows, MacOS and Linux versions. Only Internet Explorer (Windows) and Safari (MacOSX) are proprietary to a particular OS.

Hardware requirements: the minimum hardware specification would be that specified by a particular web browser's recommended system requirements.

In addition to meeting a web browser recommended hardware specification, consideration should be given to any additional requirements of software used to deliver content used in a TLE project. E.g. MS Word documents, Adobe acrobat PDFs, audio/video files and any other multimedia content.

- Recommended Staff authoring Tools System Requirements

The TLE project authoring tools will be available on the Microsoft Windows platform only. The broad specification is: Microsoft Windows XP SP2, Microsoft .NET Framework 2.0, Intel Pentium 4 class CPU and 256Mb memory.

Project Plan

There are no significant alterations to the project plan to report at this stage. The development of the Narrative Event Diagram tool can be coped with within current resource and will not impinge on the deadlines of the defined Work Packages.

Section Three: Project Partners

As has been identified in various sections of the report, a raft of work has been undertaken with our project partners. This is reflective of the fact that the effective development of TLE2.0 is heavily dependant on liaison with our user community.

Issues with regard to changes in project partners have been detailed in other areas of this report, but this is not expected to cause any disruption to our project plan. Indeed, it is hoped that our new partner will bring an additional and exciting new subject area to the project.

As detailed elsewhere, discussions are on-going with Microsoft with regard to potential collaboration in future. However, it is fair to say that the TLE2.0 project is open to discussions with any relevant organisation.

Section Four: Outputs, Outcomes and Deliverables

User Manual

Michael Hughes has spent a number of days developing and collating various pieces of design information, and put it together in to what will form the beginnings of our Minimal User Manual. This is a document that begins to show how a user will interact with the system (or systems in case) and also serves as a useful illustration of how we see features working. The first draft version will be made available to our client groups via the project WEB site within the next few days.

Lessons Learnt

One of the most important lessons learnt by the project team is to allocate specific and regular time to project team meetings and where possible record the output of these meetings in order that the detail is not lost. For a team whose members all have day jobs that take up at least 1 FTE already, the discipline of these meetings has proved invaluable to progressing TLE2. Every Thursday morning is allocated to a TLE team chat for approximately 30 minutes. On only two occasions has this meeting failed to be held due to almost all parties being absent on other business.

Section Five: Dissemination

There has been an extensive amount of work done by team members with regard to both dissemination of project information and also collaboration outside the main project consortium. With regard to project dissemination, the following activities have been completed

- 11.06.06 Ross Priory: As part of the planning process defined in Work Package 2, a discussion of planned dissemination activities (various).
- 5.9.06: Society of Legal Scholars Conference, Keele University, conference paper: 'Rip mix & learn: social software and professional legal learning'. Elements of TLE 2.0 discussed (Paul Maharg).
- 18.9.06: Visiting scholar to GGSL, Ian McColl, University of Wollongong: demonstrated TLE 2.0 (Paul Maharg)
- 22.9.06: Presentation to UKCLE Advisory Board (Patricia McKellar)
- 27.9.06: Spelend leren in virtuele werelde (Playing and Learning in Virtual Worlds) Conference, Delft, <http://www.kodos.nl/symposium/index.html>, keynote presentation: 'Transactional learning and simulation: how far can we go?' (Paul Maharg).
- 12.10.06: Visiting academics to Strathclyde, senior Aberdeen University staff, demonstrated and discussed elements of TLE2.0 (Brian Henderson).
- 20.09.06 UKCLE organised an E-Learning Seminar on 20th September which included a session on Blended Learning where the TLE 2.0 project was demonstrated and discussed with delegates (Patricia McKellar).
- 27.09.06 Presentation to the Legal Education and Training Group of the City Solicitors in London. The audience of 120 was made up primarily of Training Partners within large City firms who could see many opportunities for the use of the suite of TLE 2.0 tools for training in practice (Patricia McKellar).
- 21.9.06: Pedagogy of Interviewing and Client Counseling, UCLA, Calif. <http://www.law.ucla.edu/home/index.asp?page=2214>, invited co-presentation with Karen Barton on technology and interviewing which included details of TLE 1.0 & TLE 2.0 (Paul Maharg).
- Draft article sent to Journal of Information, Law, Technology (JILT) <http://www2.warwick.ac.uk/fac/soc/law/elj/jilt/>, currently in-review. To be published early 2007. Title: 'Simulations, learning and the metavers: changing cultures in legal education' (Paul Maharg, Martin Owen, 10376 words).
- 9.10.06 International Conference on E-Portfolios and e-PDP organised by the Centre for Recording Achievement. Within paper it was demonstrated how the TLE 2.0 project could be used as a back drop for the use of e-portfolios (Patricia McKellar).
- 20-21.10.06, Pedagogy of Interviewing & Client Counseling Conference, UCLA, Los Angeles, invited papers on Standardised Client Initiative (<http://zeugma.typepad.com/sci>) which also included a technology session where TLE 1.0 & 2.0 were discussed as the context to learning *via* f2f simulation activities (Paul Maharg).
- 25.10.06 Meeting with senior Microsoft management, Head of Public Sector UK to investigate potential partnership in future funding / project work (Brian Henderson). Paper to go to Microsoft board.

Section Six: Evaluation

The early work on the development of the project evaluation plan was undertaken at the Ross Priory event in mid June 2006. This work set the context for the evaluation work and was also useful in that all project partners were present – thereby being able to comment and contribute at the time. However, as time went on, it became clear that further clarification of the Evaluation Strategy was required, and to that end an evaluation summit meeting was held at the University of Strathclyde on July 27th 2006. At this meeting, Martin Owen of Nesta FutureLab met with a number of representatives from the University of Strathclyde to further develop the Evaluation Strategy and implementation plan. This resulted in a document being produced by Martin which set out to

- Set out research questions and directions
- Present practical methodological steps in data gathering and analysis
- And map the timing of evaluation as an activity onto the overall project plan.

Broadly, the context of the evaluation is three fold. Firstly it is the aim of the overall JISC programme to determine how an innovation embeds and transforms an institution. We will study what actions in the formative development of TLE2 in 4 institutions takes place. (TLE EV obj1).

Secondly, it is to study an innovative learning activity in itself – to validate the pedagogic processes we observe in the use of TLE3 and expose those observations to the stakeholders. (TLE EVobj2).

Thirdly we wish to support the developers of TLE2 with formative feedback that will both guide the development and significantly guide the development of the documentation needed to disseminate and market TLE2 beyond the project (TLE EVobj3).

Two particular evaluation issues of interest are beginning to emerge from the initial work surrounding TLE2.0.

Firstly, in relation to the potential development of TLE2.0 through the successful joint bid with the Seiberdam consortium, it is becoming increasingly important that the technological basis of TLE2.0 provides a suitable springboard for future developments and revisions of the software package, e.g. TLE3.0. This element was identified in the Evaluation Plan submitted to JISC in the initial project plan, but undoubtedly the importance of this area has increased as the project begins to expand.

Secondly, the issue of Narrative development has raised the importance of the TLE2.0 package providing a suitable development environment for users. Currently, this is being reflected in the development of a Narrative Event Diagram tool, but beyond this it is clearly important that the Evaluation Plan contributes in this vital area.

Section Seven: Issues and Challenges

Issues

- Although not impacting on overall project progress, there has been some delay in the project collaborative agreement being signed off between JISC, UKCLE and the University of Strathclyde. The section within the draft collaborative agreement that has caused most concern is related to licensing and IPR conditions with respect to the end product, TLE 2.0. As of 25/10/06, a new version of wording for this section has been produced by the University and agreement has been reached with the JISC over this. Over the next few days, it is hoped that UKCLE will similarly agree, thereby allowing final sign-off to be achieved.
- As detailed above, the University did experience some difficulty in producing a third internal partner client group to add to the Social Work and Architecture areas. Work with Computer Information Science and also Statistical Modelling, despite giving rise to useful and interesting comment, did not lead to a formal partnership agreement. Conversation with our JISC programme manager, Heather Williamson, at this stage was extremely useful in terms of mitigating risk to the project and the decision was taken not to allocate significant time to search for another replacement. Latterly, however, with the agreement of both JISC and UKCLE, the Glasgow Law School have taken up this “free” slot, with a very innovative and worthwhile subject area which will bring much to the TLE2.0 project.
- As with any project that is spread over a considerable portion of the UK, communications with all partners is never a quick-fix issue, and requires constant maintenance and review of communicational procedures. The core team meet consistently every week, and are in email contact every day. Contact with UKCLE *via* the e-learning consultant is less constant, but it need not be as continuous as in the core team; and with only a few lapses we are fairly certain that communication is reasonably stable and consistent. However, whilst all targets for the production and implementation of the evaluation strategy have been met for this reporting period, contact with Futurelab could be improved, and we are working on ways to do this, particularly as evaluation becomes a more important issue as regards systems analysis and building.

Unexpected project achievements

Overall, as indicated above, TLE 2.0 is progressing on plan and on budget. However, it is worth high-lighting a number of areas where core progress is beyond expectation or there have been achievements outside those planned. These are as follows:

- Initial work with our client groups with respect to the planned development of narratives involved the use of paper based template to elicit the necessary information. This document was handed out to client groups during the Ross Priory event, however it became clear that this was a less than ideal way to assist our clients groups in this activity and a raft of work has been undertaken by members of the core Strathclyde team to develop a more structured and automated tool to aid this process. This computer based narrative development tool will continue to be developed by the Strathclyde team and will be part of the released TLE 2.0 package.
- The successful bid to the Dutch Ministry of Economic Affairs with our Seiberdam partners.

Project Requirements / Suggestions

Training is being undertaken primarily through the purchase of relevant books and no requirement exists for additional support or training at this stage of the project.

Section Eight: Support

In terms of main TLE2.0 project, the team have experienced excellent support from our programme manager Heather Williamson. A number of issues have arisen during the first reporting period which have required action by the JISC to allow progress to continue. This has included advice on the main collaborative agreement, project partners and also liaison with our other major funding partners, UKCLE. On all occasions, responses have been helpful and timeous, even when deadlines have been tight and questions out of the ordinary.

The University also found the initial meeting of the three projects funded by the JISC in this area very useful.

Section Nine: Financial Statement

The funding arrangements for TLE2.0 are now in place with the initial planned monies from both the JISC and UKCLE having been received and processed by the Finance Department at the University of Strathclyde. There is one outstanding task with respect to the structure of the funding arrangements at Strathclyde, where the TLE2.0 project manager has to liaise with the Finance Department to set sub-budget structures and allocations for the UKCLE monies and it is planned for this work to be completed by Friday 3rd of November. This work does not impinge on the ability to utilise these funds as planned.

As shown, expenditure levels at this stage are low, with most monies being spent on travel / subsistence claims and dissemination activities as the core TLE2.0 team and partners meet to develop the TLE2.0 functional specification / develop client narratives and publicise the project.