

# Plug and play learning application integration using IMS Learning Tools Interoperability

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ceLTic

Creating Environments for **Learning**  
using **Tightly Integrated** Components  
A JISC-funded project

# Outline

- The ceLTic project
- An online community of enquiry
- What is LTI?
- Impact of LTI in enabling the creation of an online community of enquiry
- Questions?

# ceLTic project

- **Project:**
  - “creating environments for Learning using Tightly Integrated components”
  - JISC funded (July 2010 – Dec 2011)
- **Aim:**
  - integration of elearning applications with VLE using IMS Learning Tools Interoperability
- **Project partners:**
  - The University of Edinburgh, University of Stirling, Queen Margaret University
- **Commercial partners:**
  - IMS, Blackboard Inc, Learning Objects Inc and Pebble Learning Ltd
- **Case studies:**
  - Elgg, WebPA, PebblePad, Campus Pack

## Online community of enquiry

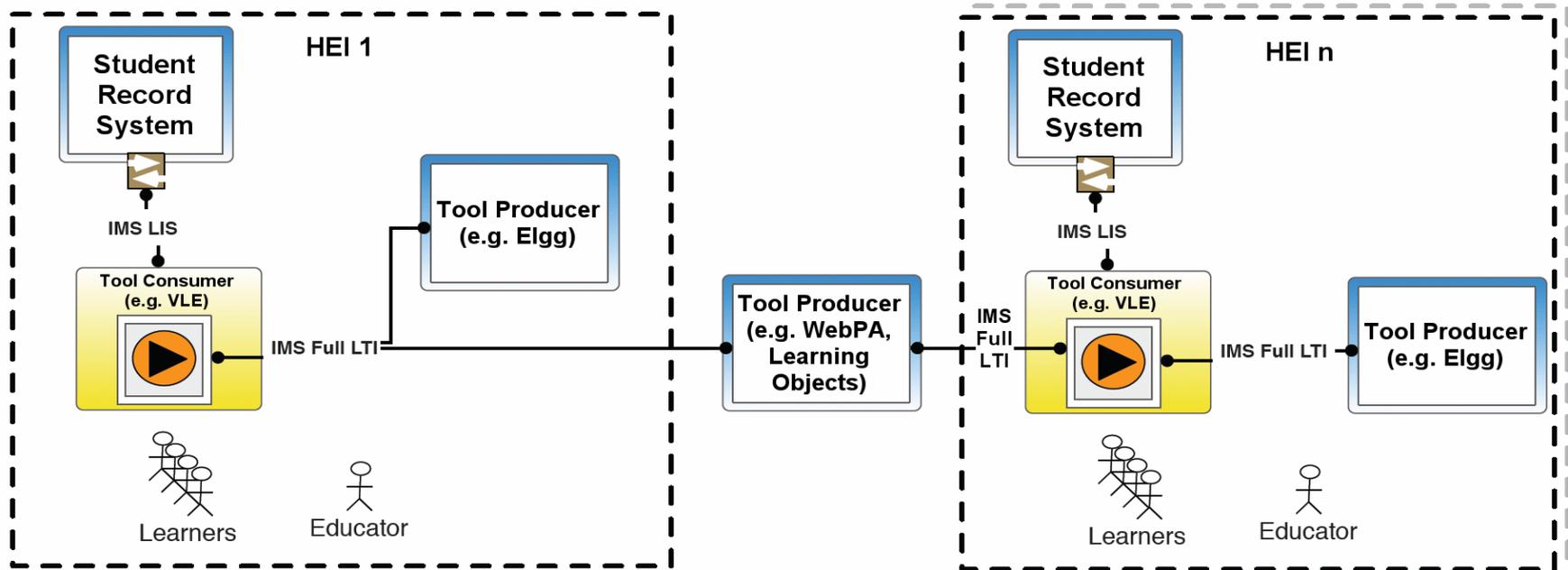
- “A group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding” (Garrison, 2011)
- Need for tutors to be able to create environments using appropriate sets of learning applications combining them in a seamless manner so the main focus can be on the learning and not the technology

- Face-to-face interviews
  - with developers, system administrators and academic staff
  - pilot (n=2)
  - main phase (n=6)
- Online questionnaire
  - promoted via mailing lists and project blog
  - 62 responses (so far)

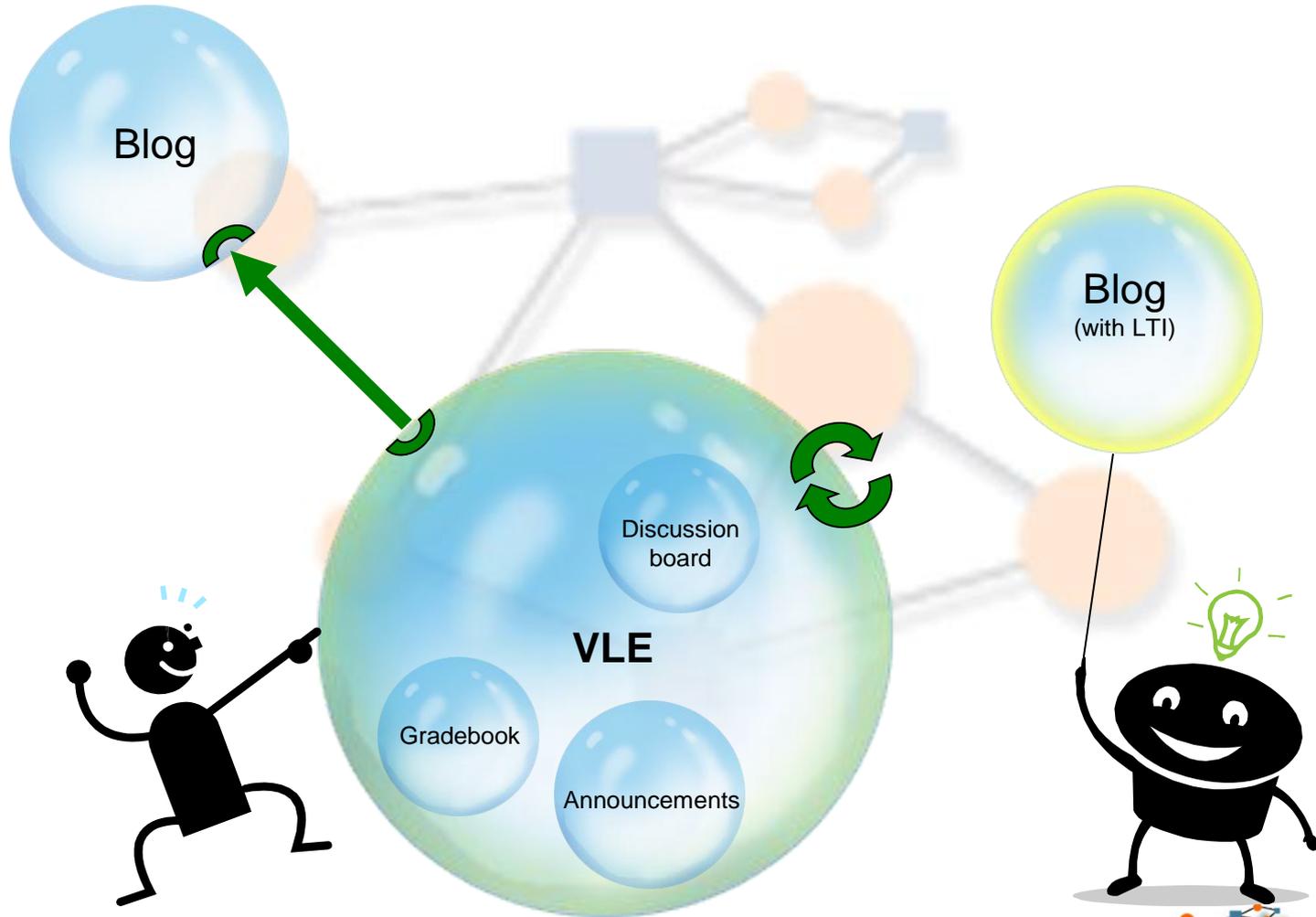
## Main benefits of linking applications to VLE

- Single sign-on (94%)
- Ease of access
- Seamless integration
- Easier management
- Fill shortfalls in availability of functions in VLE
- 47% would like to see other tools linked to their VLE

# “Plug-in to VLEs” learning environment model



# What is LTI?



## LTI functionality

- Easily added to a course
- Simple launch of learning application
- Basic LTI unofficial extensions:
  - outcomes (to be included in LTI 1.1)
  - memberships
  - setting
- “Full” LTI (LTI 2):
  - greater access to data via web services
  - notification of events (such as course copy)
  - internationalisation
  - placement of links within VLE

# WebPA case study: Memberships

Blackboard Learn

Stephen Vickers My Places Home Help Logout

The University of Testing

My Institution Courses

ceLTic Project Sample LTI applications > WebPA

You are in: home > manage users

### WebPA OS manage users

**Tutors**

- [home](#)
- [my forms](#)
- [my groups](#)
- [my assessments](#)

**Admin**

- [admin home](#)
- [upload data](#)
- [view data](#)
- [transfer grades](#)
- [sharing](#)

**Support**

- [help](#)
- [contact](#)

[logout](#)

**Technical Problem?**  
If you have a problem, find a bug or discover a technical problem in the system, [contact us](#) to report it!

**Users to be added**

username	Name	type
mspark	Muriel Spark	student

**Users to be updated**

username	Name	type
agbell	Alexander Graham Bell	student

**Users to be deleted**

username	Name	type
sconnery	Sean Connery	student

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# WebPA case study: Outcomes and Setting

Blackboard Learn

Stephen Vickers My Places Home ? Help Logout

The University of Testing

My Institution Courses

ceLTic Project Sample LTI applications > WebPA

You are in: home > manage grades

## WebPA OS manage grades

This page allows you to update the source for this module with grades from a WebPA OSassessment. Only one grade book column is associated with this module, so if there are multiple, marked assessments you will need to select one of them for this task.

**Last update:** 29 November 2011 at 5:33 am with assessment *New assessment*.

**New assessment**  
scheduled: Sat, 5th November, 2011 at 9:00 - Sat, 5th November, 2011 at 17:00  
student responses: 1 / 3

**Mark Sheet**  
**Algorithm:** webpa.  
PA weighting: 50%  
Non-completion penalty: 5%  
Grading: Numeric (%)

Update source

**Technical Problem?**  
If you have a problem, find a bug or discover a technical problem in the system, [contact us](#) to report it!

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# WebPA case study: sharing contexts

The screenshot shows the Blackboard Learn interface for 'The University of Testing'. The user is logged in as Stephen Vickers. The page title is 'WebPA OS view sharing data'. The sidebar contains navigation links for Tutors, Admin, and Support. The main content area is titled 'Shared Source Contexts' and includes a list of sources to share with. A modal dialog box is open, displaying a share key string: 'share\_key=ztKcFyz5jg'.

**Blackboard Learn**  
Stephen Vickers | My Places | Home | Help | Logout

**The University of Testing**

My Institution | Courses

ceLTic Project | Sample LTI applications > WebPA

You are in: home > lti sources

**Tutors**  
home  
my forms  
my groups  
my assessments

**Admin**  
admin home  
upload data  
view data  
transfer grades  
sharing

**Support**  
help  
contact  
logout

**Technical Problem?**  
If you have a problem, find a bug or discover a technical problem in the system, [contact us](#) to report it!

## WebPA OS view sharing data

### Shared Source Contexts

You may share this module with users from other sources. These might be:

- other links from within the same course;
- links from other courses in the same VLE; or even
- links from a different VLE within your own institution or outside.

**New share key**  
Life: 3 days  
Auto approve?   
**Generate**

Source	Title	Approved
X webct.testing.edu	PowerLink Demonstrations - ceLTic Project: WebPA	Yes <b>Suspend</b>

To invite another source to share this module:

1. use the button at the bottom of this page to generate a new share key (you may choose to pre-approve the share or leave it to be approved once the key has been initialised, see below)
2. send the share key to an instructor for the other source

On receipt of the share key string (e.g. "share\_key=xyz"), the other instructor should:

1. create an LTI...
2. initialise the sh...
3. if the share ha...

Once the share has...

Send this share key string to the other instructor:  
share\_key=ztKcFyz5jg  
**OK** **Cancel**

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# Benefits

- **Benefits for learners and tutors:**
  - seamless integration of VLE and learning applications
  - empowerment of tutors
  - collaboration between learners from different VLEs
- **Benefit for administrators:**
  - easier to deploy new applications
  - able to support “bleeding-edge” courses
- **Benefit for developers:**
  - single integration to support any VLE
- **Benefits of the ceLTic project:**
  - exemplars/case studies
  - workflows
  - LTI evangelism

# Questions?

Email: [stephen.vickers@ed.ac.uk](mailto:stephen.vickers@ed.ac.uk)

Project site: [www.celtic-project.org](http://www.celtic-project.org)

IMS: <http://www.imsglobal.org/toolsinteroperability2.cfm>