

JISC – Large Scale Implementation Mobiles Enhancing Learning and Support (MELaS)

Project team: the University of Wolverhampton with Pebble Learning and Ultralab

1. Background

The University of Wolverhampton is currently the British university with the highest proportion of under-represented groups amongst its students (THES figures on 23 Sept 2005). It hosts a HEFCE-funded Centre of Excellence (CETL) specialising in innovative support for this diverse student population. The University was one of the first HEIs to experiment with SMS and other forms of mobile learning and a programme of pilot modules, student surveys, technical trials and staff development has been underway to prepare for large-scale sustained deployment of SMS across the institution. This proposal is intended to consolidate and enhance that provision and to provide the sector with a clear pedagogic and business exposition and evaluation of phone-based messaging.

Mobile learning includes the delivery and support of learning using mobile phones and in the last five years, these have steadily assumed a place in further and higher education in the USA, the Far East/Pacific Rim and the UK supporting distance learners and part-time students. There has also been a growing understanding of mobile phones' potential for supporting learning. The University of Wolverhampton has already undertaken large surveys of student attitudes and reactions to educational and administrative SMS and is aware of many of the organisational and cultural issues of embedding large-scale e-learning as well as the ethical issues of mobile learning. The University has also conducted several pilots with SMS and is aware of the infrastructural and technical issues and the pedagogic and pastoral possibilities.

The proposed project will refine a sustainable institutional SMS strategy that is designed to improve retention and progression by extending and enriching the contact and support of students on- and off-campus. The strategy will also provide content that complements other media and enables students to exploit 'dead' time and short periods off-campus for example commuting or rest breaks at work

2. Aims and Objectives

The projects aims and objectives are to;

- 1) Assess the usefulness of administrative information distributed by SMS to students studying at level 1 in HE.
- 2) Evaluate a range of subject-based learning and teaching technologies by SMS from the staff and student perspective
- 3) Identify the staff development needs of using SMS texting for administrative and academic work
- 4) Assessment of the impact of this intervention on retention and progression.
- 5) Produce guidelines on the purposes and benefits of SMS texting at level 1 in HE
- 6) A review of the issues of implementing SMS within a large institution and a set of recommendations on effective implementation.
- 7) Embed SMS messaging within the institutional e-Portfolio
- 8) Generate a technology toolkit for groupcasting media nuggets.

3. Overall Approach

The University of Wolverhampton will be responsible for implementing and evaluating the educational and organisational aspects of the project. Ultralab will be responsible for the technological aspects. Pebble Learning will be responsible for technical support installing the e-Portfolio interface to the system. The partners will be jointly responsible for dissemination, quality assurance and project management. The Dean of Learning and Teaching (representing the University of Wolverhampton), Director of Ultralab (representing Anglia Ruskin University) and Colin Dalziel (representing Pebble Learning) will oversee the project.

The University has specifically chosen to collaborate with Ultralab because of its track record in research and development in mobile learning, its experience of working with and for groups that are educationally and socially marginal and because of earlier successful collaboration on the EU-funded *m-learning* project. Pebble Learning is a University spin-out company that developed the e-Portfolio that has been adopted for University-wide use in September 2005. The e-Portfolio is used by all module leaders in the pilot study and it is felt that for learning and teaching as well as reflection of the process of using SMS even more useful to the student experience than the virtual learning environment.

The project will start in April 2006. The project plan envisages procurement, technical development, prototyping, small user trials and staff development taking place in the period up to Summer 2006; the academic year 2006/2007 will be devoted to delivery, implementation and formative evaluation. The staff and student experience, further trials and final evaluation will take place between September 2007 and March 2008.

The staff and students will be drawn from first-year modules in six of the Schools attached to the Centre of Excellence in Learning and Teaching Project, namely the School of Art and Design, looking at identifying learner needs; the School of Applied Sciences, improving tracking systems and student support; Humanities, Languages and Social Sciences, working with writing skills; and the School of Education, building on its programme of embedded skills support, School of Engineering and the Built Environment, part-time student support and the School of Computing and IT, non-degree students.

The project will comprise a generic messaging system across all six Schools and specific messaging technologies for each of the individual Schools to enhance the learning and teaching.

The generic messaging system will use the SITS student information management system for administrative and organisational messaging and a system developed by Ultralab and built into the Wolverhampton e-Portfolio for pastoral and pedagogic messaging (the University already has adequate licenses to deploy a standalone SMS client as a training and fall-back system). This will provide targeted bulk and individual SMS texting, for all courses, awards, modules and individuals within the CETL student constituency. Tutors and administrators will be enabled to send messages that are scheduled or *ad hoc*, bulk or individual; these may be operational (for example a lecture cancelled or moved, deadline reminders, library book recall), pastoral (tutee interview) or educational (study guides, exam tips, seminar prep, assessment feedback, lecture summaries).

4. Project Deliverables

4.1. Pedagogic and Institutional

The project will benchmark initially and then evaluate throughout the project to capture the student and staff experience.

Deliverables:

- a) An assessment of the usefulness of messaging administrative information to students studying at level 1 in higher education.
- b) An evaluation of a range of subject-based learning and teaching by SMS from the staff and student perspective
- c) Identification of the staff development needs of using SMS texting for the administrative and academic work
- d) An assessment of the impact of this intervention on retention and progression on these six modules
- e) Guidelines on the purposes and benefits of SMS texting at level 1 in higher education
- f) A review of the issues of implementing SMS within a large institution and a set of recommendations on effective implementation.
- g) Guidance on the evaluation of mobile learning based on the development and trialling of innovative messaging-based methods and technologies as part of the project evaluation, alongside more conventional methods.

4.2 Technological

The focus of the project is pedagogic and organisational rather than technical. Nevertheless, there are several technical deliverables and these will be made freely available to the community. The institution-wide messaging will explore several technical options.

- a) Embedding SMS messaging within the institutional e-Portfolio.
- b) Ultralab will be responsible for the generation of a technology toolkit for groupcasting media nuggets (SMS, MMS) based upon their SMS and MMS system 'ultra_sms'. This will use open-source technologies and be delivered as an open-source system for integration with e-Portfolios via webservice, integration with standalone system for SMS and MMS and integration with messaging providers via webservice. This will include the two media types, group definitions, archiving and a webservice interface

5. Project Outcomes

The project outcomes that will impact on the teaching, learning, and research communities by providing a researched understanding of SMS in the following four areas:

- a) messaging systems and the integration of these with student information databases and the e-Portfolio.
- b) learners' and teachers' uses of SMS texting.
- c) exploitation of SMS by the institution in different subject areas for learning and teaching.

6. Stakeholder Analysis

Stakeholder	Interest / stake	Importance
University of Wolverhampton	Impact of SMS on retention and effectiveness of communication with students	Medium
Ultralab	Generate a technology toolkit for group casting media nuggets.	High
Pebble Learning – e-Portfolio software provider	Opportunity to host the institutional implementation of SMS texting.	High
Registry	Effective and relevant communication with students	Medium
Module Leaders using SMS with their students and administrators	Supported exposure to promotion of SMS technology with their learners; Development of specific learning experiences that support SMS functions; Contribution to student experience research to determine 'value-added' for their students	High
IT Services	Host for e-Portfolio and SITS	Low
CELT	The applicability of SMS as a learning, teaching and assessment tool; Identifying staff development needs; Developing guidelines and University policies for SMS deployment	High
JISC	Successful completion of the project; Value for money High impact on understanding of SMS in the teaching, learning, or research communities	High
JISC Regional Support Centre	Monitors and promulgators of innovative/novel learning technology in FE.	Medium
JISC Legal	Exploration of issues of using SMS for student communication	High
TechDis	Concern about the accessibility of administrative systems and processes, and pedagogy, rather than	Medium

	just the technology.	
HEA – Subject Centres, GEES, PRS, ESCALATE, ICS, Engineering and Art and Design	Dissemination of the results and opportunity to engage with a wider community through the techniques to assist widening participation and effective communication with students	Medium
SURF Holland	Dissemination for wider exposure and general European agenda	Low
QAA	A creative method of working with QAA will be explored	Low

7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Staff leave	1	2	2	Back up members of Wolverhampton team have already been identified.
Student engagement with SMS minimal	3	4	12	We have e-mentoring support which will be put in place to assist
Module Leaders do not undergo full training	3	3	9	Put in extra professional development and add early assessment trial with SITS
Organisations withdraw	1	5	5	Substitute partner institutions have already been identified should current partners withdraw
Technical – unable to commission system	1	4	4	Technical expertise of software providers and strength of the partnership
External suppliers	1	1	1	ePortfolio software is currently being used – so unlikely to fail e-Portfolio is part owned by CELT so no issue with availability Ultralab are an experienced and secure JISC partner
Legal	1	3	3	Use University legal support and JISClegal throughout

8. Standards

Agreement has been reached with both Ultralab and Pebble Learning to work in partnership to ensure a successful implementation of the SMS system.

It is envisaged that some work of this project will lead to the development of University Guidelines on the effective and appropriate use.

This is an open source project using interoperability standards, the project team has already established a dialogue with JISC Legal and envisage this being continued throughout the project.

9. Technical Development

The development of toolkit by Ultralab is crucial to this project. This is expanded on in Work Packages A and B.

10. Intellectual Property Rights

The IPR and/or copyright asserted by the owners of the relevant technologies employed remains that of the originators and is unaffected by this research proposal. The open source toolkit developed and the results of the student and staff experience as evaluated by the project terms of written work, diagrams, use-cases, project reports, and other artefacts arising from this project will be assigned to members of the partnership licensed to the JISC for educational purposes. Due deference to both data protection and sensitivity of content will be established very early on, via both JISC and the various institutional protection officers, to ensure both compliance with legal requirements and regard to individual personal data.

Project Resources

12. Project Management

The project is drawing on Academic staff that have been seconded to the HEFCE Centre of Excellence project. It is intended that the monitoring of progress and expenditure be conducted by that Steering Committee which will formally report to the University Learning and Teaching Committee and Executive.

Memberships

Centre of Excellence in Learning and Teaching Steering Committee (SC)

Membership: Deputy Vice-Chancellor (chair); Project Co-ordinator, Module Leaders (2), Director of IT Services, Director of Learning Centres, Head of Careers, Finance, Registry, Estates and External Evaluator

Project Group (PG)

The project group members are identified in the table below, they will also be split into two subgroups the Technical Group (TG) and the Learning Group (LG). The table identifies group memberships.

Staff	Role in Project	Membership of which groups
Prof. Geoff Hurd (GH)	Chair Steering Committee (UoW)	SC
Dr. Alison Halstead (AH)	Fund holder and project manager (UoW)	SC and PG
John Traxler (JT)	UoW pedagogy co-ordinator (UoW)	PG, LG and TG
Kris Popat (KP)	Ultralab technology co-ordinator	PG and TG
Richard Hopkins (RH)	Registry (UoW)	PG and TG
Colin Dalziel (CD)	Technical expert - Pebble Learning	PG and TG
Dave Watkins (DW)	IT Consultant – ITS (UoW)	PG
Eleanor Cohn (EC)	SAS Module Leader (UoW)	SC and PG and LG
Julie Hughes (JH)	SEd Module Leader (UoW)	SC and PG and LG
Jacqui Peiterick (JP)	HLSS Module Leader (UoW)	SC and PG and LG

JISC Large Scale SMS Implementation – Project Plan

Alison Felce	(AF)	SEBE Module Leader (UoW)	LG
tbc		SAD Module Leader (UoW)	LG
Chris Dennett	(CD)	SCIT Module Leader (UoW)	LG
Tim Ellis	(TE)	Technical Expert - Ultralab	PG
Alison Barber/Lindsey Pitt		Evaluation (UoW)	PG

Partners

Pebble Learning, E-innovation Centre, Telford
Ultralab, Angela Ruskin University

Overview of the project

The table provides an overview of the project, along with Work Packages A and B it sets out the details and timescales of the project, including the main reporting to the Steering Committee.

Date	Activities	Key Personnel
March 2006	Meet with JISC to define and develop a detailed technical and delivery plan. Shortlist and appoint key staff.	AH , JT, KP and TE
April 2006	Technical group meeting	JT , RH, CD and KP and TE
April 2006	Module Tutor Leads	AH , Teaching Staff x 6
April 2006	Host Joint innovation project meeting at Wolverhampton – April 25 th	JISC and partners
May 2006	SITS Training for administration of messages	module tutors and campus registry staff.
May 2006	Report to Steering Committee – May 8 th	AH plus module leaders
June 2006	Establishing feasibility for September administration pilot.	Project Group
July - August	Module Leaders working with SITS team, piloting.	Module Leaders, administration and campus registry
September - December 2006	Implement and test administration system with six modules, directly from SITS.	Module Leaders, administration and campus registry
October 2006	Report to Steering Committee	AH plus module leaders
January 2007	Evaluation of the administrative pilot	Evaluation Team
December – February 2007	Staff training for implementation of administrative information and L and T variety through ePortfolio	RH and CD
February 2007	Report to Steering Committee	AH plus module leaders
February – May 2007	Main pilot	Project Group
May 2007	Report to Steering Committee	AH plus module leaders
June – August 2007	Evaluation, modification, staff training	Evaluation Team
September 2007	Pilot across all Schools through level 1 module and ePortfolio	Project Group
October 2007	Report to Steering Committee	AH plus module leaders
Jan/Feb 2008	Support for continued use	Project Group

JISC Large Scale SMS Implementation – Project Plan

	Evaluate strategies and extent of use Develop embedding strategies	
February 2008	Report to Steering Committee	AH plus module leaders
Mar/Apr 2008	Evaluate the project Establish strengths and weaknesses of learning and teaching approaches Establish strengths and weaknesses of the tools Report against project aims	Evaluation Team
May 2008	Final Report to Steering Committee	AH plus module leaders

Staff Time

Staff	Role in Project	Time	Cost allocated
Geoff Hurd	Chair Steering Committee	Match – 6 days	2500
Alison Halstead	Fund holder and project manager	Match - 24 days	6000
John Traxler	UoW pedagogy co-ordinator	24 days	3417
Kris Popat	Ultralab technology co-ordinator	20 days	14,000
Richard Hopkins	Registry – SITS team	12 days	2500
Colin Dalziel	Technical expert - Pebble Learning	5 days	3476
Dave Watkins	IT Consultant – ITS	Match – 6 days	2500
Eleanor Cohn	SAS Module Leader	24 days	3414
Julie Hughes	SEd Module Leader	24 days	3414
Jacqui Peiterick	HLSS Module Leader	24 days	3414
Alison Felce	SEBE Module Leader	24 days	3414
Chris Dennett	SCIT Module Leader	24 days	3414
tbc	SAD Module Leader	24 days	3414
Tim Ellis	Technical Expert – Ultralab	45 days	30,000
Alison Barber/Lindsey Pitt	Evaluation	35 days	6000
Administration	CELT	24 days	5000
Students	Test the system with staff	5 days	1000

13. Programme Support

JISC: advice from Lesley Hawkins, Sarah Knight, Lou McGill, Heather Williamson, TechDis, InfoNet and JISClegal.

14. Budget

Detailed Project Planning

15. Workpackages

There are three work packages associated with the programme

- A The Development of the Group-Cast System (administration)
- B The Development of the Group-Cast System (learning and teaching)
- C The Institutional Deployment and Evaluation

16. Evaluation Plan

Timing	Factor to Evaluate	Questions to Address	Method(s) of evaluation	Measure of Success
April – July 2006	<p>Module Leader awareness of SITS capability</p> <p>Identification of training needs</p> <p>Identification of a service provider</p> <p>Development of web services for SMS delivery</p>	<p>What can the student management system do directly for academic module leaders?</p> <p>How much and what is the appropriate amount of type of training?</p> <p>Level of service provided by various companies</p> <p>Functionality developed to allow control, evaluation and communication to take place from SITS through the ePortfolio to the students</p>	<p>Focus group</p> <p>On line operation to current CETL students</p> <p>Compare rates</p> <p>Tests</p> <p>Staff training</p>	<p>Ultralab well informed about staff skill base</p> <p>Staff able to brief and train colleagues.</p> <p>Appointment</p> <p>Output: A paper on the staff development needs to utilise SMS for administrative and learning activity</p>
August – December 2006	<p>Feedback on early SITS direct trials</p> <p>Piloting of SMS through Ultralab webservices tool</p> <p>Development of Learning and Teaching delivery capability.</p>	<p>How much communication can be achieved through SITS?</p> <p>What do learners consider the strength and weakness of the information they received?</p> <p>How did the staff and students get on with the system?</p>	<p>Interrogation of system to review traffic</p> <p>Questionnaire and focus group</p> <p>Interrogation of system to review traffic</p>	<p>Feedback to Ultralab in support of the groupcasting task</p> <p>Output A paper on the learner experience of the use of SMS for administrative purposes</p>
January – May 2007	<p>Teachers' use of the SMS system through Group Cast system to ePortfolio for learning.</p>	<p>What types of learning have been delivered by SMS to whom and for what purpose? How is it being assessed?</p> <p>What is the student experience of this approach to learning and</p>	<p>Completed template from Module Leader</p>	<p>Output: A paper on comparison of learner</p>

JISC Large Scale SMS Implementation – Project Plan

		<p>teaching?</p> <p>What is the staff experience of both developing and delivering SMS learning?</p> <p>Technical review of system</p>	Thoughts in ePortfolio, questionnaire and focus group	<p>experiences of SMS based learning and teaching</p> <p>Output:A technology toolkit for groupcasting media nuggets</p>
June – September 2007	Reflection, evaluation and assessment of strengths and weaknesses	<p>Has it helped retention and progression?</p> <p>Which aspects of learning and teaching were really successful?</p> <p>Which aspects of the administration were really successful?</p> <p>What do students think were the real benefits?</p> <p>What do staff think were the real benefits?</p> <p>Where were the issues?</p> <p>What would we change if we were to do it again?</p>	<p>Assessment data for the modules compared with last three years.</p> <p>Module Questionnaires</p> <p>Staff Student Consultative groups</p> <p>Questionnaires and focus groups</p>	<p>Output: Guidelines on the purposes and benefits of SMS texting at level 1 in HE</p> <p>Output :An evaluation paper on the impact of SMS intervention on retention and progression based round the five level one modules</p>
September – December 2007	<p>Pilot 2 same staff same module and if feasible (depending on outcome of year 1) out to one module in all Schools</p> <p>Support for continued use</p> <p>Evaluate strategies and extent of use</p>	<p>How much communication can be achieved through SITS?</p> <p>What do learners consider to be strength and weakness of the information they received?</p> <p>How did the staff and students get on with the system?</p>	<p>Interrogation of system to review traffic</p> <p>Questionnaire and focus group</p> <p>Interrogation of system to review traffic</p>	
January – March 2008	<p>Evaluate the project</p> <p>Establish strengths and weaknesses of learning and teaching approaches</p> <p>Establish strengths and weaknesses of the tools</p> <p>Report against project aims</p>	<p>Asking any additional questions, views of SITS, Ultralab, Pebble Learning, UoW staff and students and project group</p>		<p>Output: A review of the issues surrounding implementation of SMS within a large institution and a set of recommendations on effective implementation</p>

17. Quality Assurance Plan

The deliverables / outputs are materials, and reports that take the form of guidelines.

OUTPUTS	QA Method(s)	Evidence of Compliance
Guidelines on the purposes and benefits of SMS texting at level 1 in HE	Peer reviewed by module leaders, SITS team and Pebble Learning.	Guidelines available on Website
A technology toolkit for groupcasting media nuggets	Peer reviewed by module leaders, SITS team and Pebble learning	Functionality of project
A review of the issues surrounding implementation of SMS within a large institution and a set of recommendations on effective implementation	Peer reviewed by project team and external evaluator. Submitted to Steering Committee, ULTC and Executive	Minutes of meetings and on website
An evaluation paper on the impact of SMS intervention on retention and progression based round the five level one modules	Peer reviewed journal publication.	Published
A paper on the staff development needs to utilise SMS for administrative and learning activity.	Peer reviewed journal publication.	Published
A paper on comparison of learner experiences of SMS based learning and teaching	Peer reviewed journal publication.	Published
A paper on the learner experience of the use of SMS for administrative purposes	Peer reviewed journal publication.	Published

18. Dissemination

The website will be regularly updated with information on the progress of the project and staff involved will present work in progress at conferences the table provides the dates for key published dissemination outputs.

Timing	Dissemination Activity	Audience	Purpose	Key Message
June 2006	Website link to activity and outcomes	HE community JISC	Share findings and experiences to-date	What's happening
January 2007	Short article for HEA subject centres on SMS administrative pilots	HE community JISC	Update and engage interest	The benefits for student learning
March 2007	Peer reviewed journal publication	HE community JISC	Share findings and experience	Staff development for SMS
August 2007	Peer reviewed journal publication	HE community JISC	Share findings and experience	Learner experience of SMS for administrative purposes
September	Short article for HEA subject centres on SMS for learning and teaching	HE community JISC	Update and engage interest	The potential of SMS for student learning
February	Peer reviewed journal	HE community	Share findings and	A comparison of learner

JISC Large Scale SMS Implementation – Project Plan

2008	publication	JISC	experience	experiences of SMS based learning and teaching
March 2008	Short article for HEA subject centres on Guidelines and recommendations for use	HE community JISC	Update and engage interest	How to go about using SMS for effective learning and teaching
June 2008	Peer reviewed journal publication	HE community JISC	Share findings and experience	An evaluation paper on the impact of SMS intervention on retention and progression based round the five level one modules
Ongoing	Contribution to JISC RSC Annual Conferences	HE and FE communities	Share findings and experience	Project Overviews
Ongoing	HEA Subject Centre events (also UCISA, QAA etc)	HE subject specialists	Share findings and experience	Project Overviews

19. Exit/Sustainability Plan

All project outcomes are sustainable as follows

Project Outputs	Action for Take-up & Embedding	Action for Exit
A review of the issues surrounding implementation of SMS within a large institution and a set of recommendations on effective implementation	Will be available in electronic and paper copy at the end of the project	Available on website and advertised through HEA
Guidelines on the purposes and benefits of SMS texting at level 1 in HE	Will be available in electronic and paper copy at the end of the project	Available on website and advertised through HEA
4 peer reviewed journal publications	Published	Published and available, advertised through website
Formal business case presented to University Executive and Deans (and available to sector)	Published	Available on website and advertised through HEA Development of formal mechanisms to institutionalise project