

JISC

M3 Project Final Report

Julie Watson and Ann Jeffery

University of Southampton

January 2009

Acknowledgements

The M3 Project was conducted under the JISC Users and Innovation Programme, and we are grateful to JISC for funding this project. We would also like to express our thanks to people at JISC for their help and support, especially Joe Rosa for his Moodle support and his contributions to Twitter block development, Isobel Falconer and Josie Fraser for their help with the online conferences, George Roberts, Paul Bailey and Laurie Phipps for their help and patiently answering our questions. We would like to thank the international and home students who participated in the different strands of this project, and members of the Second Life and Twitter communities who provided help and feedback, and Peter Chatterton, our Critical Friend, for his enthusiasm and insight. We also thank the developers based in the School of Electronics and Computer Science (ECS) for their invaluable contributions in creating the Twitter blocks.

Table of Contents

Executive summary	4
Background	6
Aims and Objectives	6
Methodology	7
Implementation.....	7
Development for Second Life	8
Developing the use of Twitter	8
Participant activities during the three phases.....	10
Findings.....	11
Conclusions	14
Implications for future work	14
Recommendations	15
References	15
Appendix 1: Questionnaire about use of technology (Sept. 2007).....	16
Appendix 2: Questionnaire for ArriveUK students post-arrival.....	19
Appendix 3: Interview/follow on questions for ArriveUK students - October 08.....	20

Executive summary

Aims and objectives

- To explore the use of a social networking tool (Twitter) for creating a ubiquitous and personalised learning environment
- To build on current work within the Second Life (MUVE) community using a next generation emergent technology to create an immersive learning experience
- To adapt an existing Moodle course to create a hybrid Moodle/Second Life solution, which might potentially enable the transition to a course taught exclusively in Second Life
- To adapt some of the existing activities and learning materials (developed as 'learning objects' and vidcasts) for use with the microblogging tool, Twitter, and the Second Life environment
- To use Twitter to enable a convergent technology to promote discourse within the learner community, and to enrich the course experience
- To explore the potential of Twitter with educators based outside the language learning community

Overall approach

The M3 project developed Twitter plug-in 'blocks' for the Moodle VLE and adapted existing Moodle course resources and activities for 'in-world' use in a designated course development area within Second Life. Over the next few months, it explored the combined use of Moodle, Twitter and Second Life with three separate sets of learners/users:

- Students learning about the educational use of new technologies on a face-to-face Masters course in Applied Linguistics for Language Teaching at the University of Southampton, who included a number of professional and experienced teachers from countries outside the UK
- International students on a pre-arrival acculturation course delivered wholly online through Moodle, who were preparing for life and study in the UK
- An external group of educators and practitioners taking part in JISC Emerge conferences

Findings

Participant feedback gathered from questionnaires, interviews and observations indicated that they particularly appreciated the scope that the new technologies offered for enhancing social presence in the online course. Enabled features such as Twitpics, in-world Google maps and adapted learning resources were seen as desirable since they enhanced scope for personal contact, language support and for social networking in general. The focus of students' interest was in meeting people and sharing pictures and personal information, and very much reflected their own use and interest in Web 2.0 technologies. This positive response towards the project technologies was replicated by educators from the wider community during the third phase of the project.

Unsurprisingly with emerging technologies, there were a range of practical issues impacting on their effective implementation such as service stability; the need to both clarify and simplify their purpose and operational instructions for users who were non native speakers of English, and student frustration when the technologies proved less user-friendly. Where feasible, the project team worked to overcome as many of these obstacles as they could within the time frame of the project.

Achievements

- A set of Twitter blocks were developed for Moodle and later enhanced, allowing the successful use of the microblogging tool within an online course
- Existing learning activities and resources were adapted for in-world use with Twitter, and Second Life offering students an immersive learning experience as part of their online course
- Student response to the use of these emerging technologies within teaching and learning contexts was gauged and found to be broadly positive and encouraging
- Educators based outside the language learning community also responded favourably to the project's Twitter and Second Life developments

Conclusions

The project has demonstrated that there is student enthusiasm for and interest in the use of the emerging technologies within educational contexts even though there remain a number of practical challenges to overcome before they can become fully accessible. Interest in the project's technical achievements from practitioners and educators in the wider community has also been identified and will be built upon in the next phase of the M3 Project. The project's chief outputs - the Twitter blocks for Moodle and the in-world learning resources for Second Life - are being taken forward, and will undoubtedly form the basis of future projects seeking to explore how best to make use of emerging technologies within current teaching and learning contexts.

Background

The greater part of current resources available for online learning and teaching in Modern Languages are one-dimensional and pose challenges in terms of their effective use alongside similarly one-dimensional communication tools. Language students in particular, need to have opportunities to use the target language they are studying in meaningful ways and are often challenged when faced with asynchronous and text-bound formal communication environments such as discussion forums. The M3 Project has sought to widen the range of communication tools available for use by language students within an educational context, by investigating, in particular, ways of embedding synchronous online tools that are already establishing themselves as effective for social networking, and exploring the use of others that offer a 3-dimensional opportunity for learning.

To achieve this, the M3 Project explored the potential of the VLE, *Moodle*, the *Twitter* microblogging tool and the MUVE, *Second Life* with three different groups of users within the educational community. By integrating the use of these tools and environments in three different contexts, a broad range of responses to the use of such tools for educational purposes was sought. The first two groups comprised student language learning communities, one involving primarily face-to-face interaction, and the other learning at a distance online and potentially, 'on the move'. A particular interest was in using this approach with international students undertaking a tutored online course entirely at distance before coming to the UK to begin studies in higher education. The final group were to be recruited from interested parties from within the *Second Life* and JISC communities, including teachers, researchers and *Second Life* practitioners.

The central idea of this project was based on the exploratory use of *Second Life* and *Twitter* as connecting intermediaries for a *Moodle* course community who were also using these tools respectively for an 'in-world' course experience and for social and course-related contact while on the move. There is evidence that technology has matured and that access to technology has increased sufficiently to enable this pilot study, and that learner acceptance for more innovative kinds of online learning and teaching is increasingⁱ. The project aimed to explore the added value that a virtual world and a social networking tool could offer to learners.

Aims and Objectives

The aims and objectives identified at the outset of the project were to:

- explore the use of a social networking tool (*Twitter*) for creating a ubiquitous and personalised learning environment;
- build on current work within the *Second Life* (MUVE) community using a next generation emergent technology to create an immersive learning experience;
- adapt an existing *Moodle* course to create a hybrid *Moodle/Second Life* solution, which might potentially enable the transition to a course taught exclusively in *Second Life*;
- adapt some of the existing course activities and learning materials (developed as 'learning objects' and vidcasts) for use with the microblogging tool, *Twitter*, and the *Second Life* environment;
- use *Twitter* to enable a convergent technology to promote discourse within the learner community, and to enrich the course experience;
- explore the potential of *Twitter* with a group of learners/users based outside the language learning community.

These aims and objectives did not change substantially during the project. However, during the final phase of the project one objective had been to explore the potential of *Twitter* for use with learners in other disciplines. This

ⁱ Fetsherin I, and C Latteman, 2007, User Acceptance of Virtual Worlds
<http://www.fetscherin.com/UserAcceptanceVirtualWorlds.htm>

proved difficult to achieve within the time frame remaining and so it was decided that, instead, the educational potential would be explored with a group of more experienced users/ practitioners recruited from the JISC and other communities of teachers and researchers.

Methodology

The M3 project made use of the JISC Users and Innovation Development model as the basis of project planning and organisation. The project began with the development of the Twitter plug-in 'blocks' for the Moodle VLE and some initial internal testing. Existing Moodle course activities were identified that were suitable for migrating to Second Life and these were adapted and added to for 'in-world' use in a designated course development area within Second Life. With the blocks also in place, the project proceeded to explore the combined use of Moodle, Twitter and Second Life with three separate sets of learners/users:

- First iteration – students studying on a face-to-face Masters course in Applied Linguistics for Language Teaching (MAALLT) at the University of Southampton and taking an option in Learner Autonomy, which included a component introducing the educational use of new technologies. These MA students included a number of professional and experienced teachers from countries outside the UK.
- Second iteration – international students on a 5-week distance learning online course delivered through Moodle. The course, Arrive UK (eLanguages, 2008), is designed to help them acculturate to life and study in the UK before they arrive. The course has run since 2005 and includes online tutoring and contact with fellow students through a discussion forum and a chat room, as well as asynchronous learning materials in the form of interactive 'learning objects', podcasts and vidcasts about life at the University of Southampton. The Twitter blocks and Second Life development were integrated and employed to enhance a selected part of the course delivered during the summer of 2008.
- Third iteration – the final user group were an external group of educators taking part in a JISC Emerge online conference. Twitter was used to support the conference both during the JISC CETIS event immediately prior to the conference, and during the JISC Emerge event.

An initial research phase prior to the start of the project had already gained a picture of typical user requirements and determined the feasibility of using the new technologies. Data was collected from a sample group of international students in September 2007 (see Appendix 1), who had taken the Arrive UK online course prior to coming to the University of Southampton. Twenty international student responses to a short questionnaire about their use of and attitude towards general technology and that involved on the online course were collected. The sample group included representatives from China and other parts of Asia as well as Europe. Here is a summary of the main findings:

- The majority (18/20) of students had accessed the online course through their own pc and via a broadband internet connection
- Time of accessing the course varied with almost two thirds of the sample group going online in the evening and just under a quarter preferring either the morning or the afternoon
- 3/20 knew of/had heard of Second Life but none had set up an account
- All students had a mobile phone and over half (12/20) had internet access through their cellphone (responses to this question had implications for the use of the microblogging tool, Twitter)

From this, it was concluded that international students' computer and cellphone specifications and level of connectivity were sufficient and that the plan to include Second Life and Twitter technologies in the online course in 2008 could proceed.

Implementation

Of the several hundred international students who arrive at the University of Southampton each summer to take a pre-session course in the School of Modern Languages, many have already made contact on the ArriveUK online

course which precedes their face to face course. The M3 project aimed to explore international student acceptance and perception of two emergent learning technologies, Second Life, and the microblogging service, Twitter, used in conjunction with the social and learning possibilities offered by this five week course.

Development for Second Life

Virtual worlds such as Second Life offer an immersive experience where the learner can be fully engaged in collaborative learning activities with others. The scope for interaction with learning materials and between course participants in a 3D environment enables the tutor to create learning materials with a more kinesthetic focus. The ArriveUK online course blends forum discussion with a set of interactive activity-based learning objects which focus on UK education and culture. Second Life, however, allows for a creative pedagogical reworking of the learning objects to produce kinaesthetic as well as visual and auditory affordances. For example, two sample learning objects from the ArriveUK course involved students actively in web quest –type activities requiring a search for answers to a set of questions about the city and University of Southampton, where they would be coming to live and study. In Second Life, these same web quests were reworked to allow students to draw on a range of supporting Second Life resources, e.g. a Google map representing the area of southern England around Southampton, which required less searching of textual information and relied more on interactive engagement with such 3D resources for learning. As Crawford (2007) states '[m]ultiple studies have linked physical movement and kinaesthetic activity such as sculpture and design to better visual thinking, problem solving, language development and creativity.'

For the M3 Project, the primary focus for the students' activities in Second Life was a Google satellite map of the area of southern England around Southampton. Maps used as learning support resources are usually only available as 2D diagrams on webpages or in books. Virtual world maps can offer additional learning potential through the ability to travel around the map exploring it. There have been a few implementations of maps in Second Life teaching and learning, for example a map by Daden Limitedⁱⁱ, Birmingham City interactive mappingⁱⁱⁱ and NOAA's Weather Map^{iv}. Other learning resources that were created for the M3 project were a THINc book about Southampton and the university, map displays and adaptations and links to the two original learning objects referred to above. Students could test themselves on what they had learned using an asynchronous quiz, which also reports individual scores to the quiz author. Positive feedback has been received from the teaching and learning community about such in-world learning resources, and particularly maps^v.

Developing the use of Twitter

In the period around the project's inception, interest in the microblogging tool, Twitter, grew in the educational community. Twitter allows short 140 character messages and enables lightweight synchronous discussions with some of the archival aspects seen in blogging. Twitter messages or 'tweets' can be delivered to a variety of devices and services as shown in the diagram below. The flexibility of microblogging lends itself to personalisation of learning experiences; learning experiences that can take place at any time and in any place. Short, lightweight and informal messaging can encourage posting in contexts where the formality of language and style can deter participation. (Cardenio Project, 2007).

ⁱⁱ <http://slurl.com/secondlife/Daden%20Prime/160/183/26>

ⁱⁱⁱ <http://slurl.com/secondlife/Birmingham%20Island/128/128/23>

^{iv} <http://slurl.com/secondlife/Meteora/177/161/27>

^v Comments from in-world visitors included: "This (M3 Project) is a great use of asynchronous resources in Second Life"; "This Southampton presentation is cool"; "This is an interesting spot".

The Twitter web service was adapted for use in the project through the development of a set of Moodle blocks. Blocks are small applications that add specific functionalities to the Moodle installation. The Twitter API is usually integrated as a single web service, or in combination with others as a single web service, and this was the initial approach of the M3 project. For M3, the block would have provided the ability to read select and read feeds, and to post to an account. However, the project team discovered that a single block might require a significant portion of Moodle screen space. A division of the Twitter service into two blocks could also create more flexibility for users in addition to advantages in usability. Therefore, M3 phase one blocks offered the following functionality:

- Twitter update - a block that enabled the user to read Twitter threads from the public feed, a user-defined 'friends feed' or for own messages;
- Twitter send - a block that enabled the user to send general or direct messages to any user-determined Twitter account or person.

The project team explored how a teacher might set up Twitter accounts for teaching and the idea of a 'bucket' Twitter account for the class was developed. This 'bucket' account would act as a central location for class related Tweets, and would merely be administered for the course by the teacher rather than being identified as a personal account. Initial testing suggested that a third block that showed a persistent feed for the class Twitter account might reduce the risk of students missing important information, and to help reduce the cognitive load involved in learning how to use Twitter. After some discussion, it was decided that a Twitter RSS feed could be used to display the bucket feed. This was a simple adaptation of existing scripts which converted Twitter feeds into standard RSS for the existing Moodle RSS block. The limitations of using the existing scripts were discussed, but it was felt that the time/cost implications in developing a Java-based block from scratch could potentially prevent project development of later ideas. The RSS block was therefore developed as a 'proof of concept' with known limitations.

In response to Community of Practice feedback, the M3 Twitter blocks were also enhanced with the following features:

- Internationalisation - Unicode support, and automatic use of character sets;
- Identification of Twitterer to enable geo-positioning in the Twitter map. This block was to help create social presence for participants taking the distance learning 'ArriveUK' course. The blocks are also aimed at online conference participant;
- Twemes were used for the JISC conference and added to the Twitter Post block along with the direct message colour coding;
- Photo block. The idea of a Twitter/Flickr or Twitpic photo block was proposed to support the sharing of pictures for social presence, a popular activity on social networking sites such as Facebook, MySpace. However, issues with both Flickr and Twitter services meant that the blocks were written as a Google Map/Flickr mash-up using tags or twemes as the primary filter for the feed.

The Google Map block was developed after discussion about how interactive mapping could potentially facilitate social presence in distance learning. A block was created that mapped Twitter friends who had tweeted in the last five minutes. This is configurable to any geographical location, and learners can explore other locations on the map. The photo blocks were designed as a way of sharing pictures easily through services such as Flickr or TwitPic either via websites or through existing mobile phone applications. There were issues with both Twitter and Flickr services when trying to create this block such as Twitter's refresh limit and tag updates on Flickr, which meant that the design needed to be re-thought. The blocks were simplified to use Flickr and Google Map services, with the option of using tags to define content for the blocks.

Participant activities during the three phases

The first phase involved the MA students. 10 students from Taiwan, Poland, UK, and Kuwait volunteered to take part in sessions offered over five weeks. These sessions entailed undertaking a number of blended activities combining traditional and emerging technologies and the classroom. These activities allowed exploration of Moodle, Twitter and Second Life and included:

- orientation to LanguageHouse (the customised Moodle installation hosting the ArriveUK course) and the ArriveUK course content;
- general orientation to Second Life using a custom installation called Kuttara Zen developed by two educators from Pima College in Arizona and the University of North Dakota and with some input from the one member of the ArriveUK project. This was followed by an introduction to M3 project learning materials for ArriveUK;
- a general introduction to using the Twitter service, and an overview of using Twitter as part of the ArriveUK course;
- a series of personalised workshop sessions for students wishing to explore web 2.0 or Second Life as part of their learning.

Interviews with a sample group from the MA participants revealed that a number of external factors impacted on students' engagement in this first phase. The M3 activities were voluntary and presented an additional burden on already crowded MA schedules. The times of the M3 workshops coincided with student MA presentations, which meant that they needed to focus on their assessed activities despite their interest in the project. These interviews, conducted with 5 of the students, also revealed that although they had an interest in using new technologies for their own teaching, there were barriers to the uptake of technologies in home countries; barriers that would be also be experienced in the UK, namely, available time for students or teachers to innovate, access to equipment in schools, current timetabling of lessons.

The group for Phase 2 of the M3 Project was formed from distance learners on the ArriveUK course based in a range of countries (China, Taiwan, Saudi Arabia, Japan, Thailand, and Korea). Of the total number of course participants there were 6 declared Second Life sign-ups and 2 Twitter sign-ups. Evidence from follow-up interviews with the students when they arrived in the UK, shows that the number of students who accessed these services for themselves may well have been greater than the 'official' number of participants. In addition, a group consisting of visiting Mexican educators taking part in an ACAMEX exchange programme with the University of Southampton also participated in phase 2. These Mexican tutors undertook the same activities as the MA group, but were able to spend more time using Twitter and Second Life activities in-world.

A number of activities were planned for the M3 dimension of the ArriveUK course. These included an in-world orientation to Second Life, adaptation of the ArriveUK learning materials for discovery learning in Second Life and an in-world quiz. Second Life also offered the opportunity to meet the tutor in-world, and to be able to communicate and ask for information about Southampton University and the UK. Twitter was used both as a tool for social presence, and in conjunction with learning activities using video. The Twitter RSS feed was used both to provide social presence and for frequent updates and information relating to discussion topics around the videos.

The final user group comprised external groups of educators taking part in two JISC Emerge online conferences. Twitter was used both as a conference activity and also to support the conference both during a JISC CETIS event immediately prior to the conference, and during the JISC Emerge event.

In June 2008, the M3 Project took part in the JISC Emerge "Exploring User 2.0: the shape of future users" and ran a whole day activity together with Andy Ramsden from the University of Bath exploring attendee perceptions of Twitter. A range of questions was posted to the JISC Emerge Twitter feed during the course of the activity. Conference posts were tagged using Twemes (social tagging for Twitter), and photos shared using Flickr or Twitpic. The activity worked well on the whole and even attracted participation from outside the conference.

However, using Twitter on such a large scale was not without hitches. A number of issues were encountered:

- Twitter was providing an unreliable service causing intermittent or missing posts.
- Twitter account refresh limits mean that the feed is frozen and updates might not appear for some time.
- A lot of technical support was needed to help new Twitterers get started initially.
- Adding and removing followers to the account was time consuming and needs to be done by someone that can actively monitor the thread all day.
- Posting and answering tweets was an intensive activity and left little room for other conference activities.

The JISC Emerge Twitter feed has since developed a life of its own as the JISC Emerge community feed, and is still attracting followers. In November 2008, the project attempted to use the extant Twitter blocks again as part of the conference Moodle. However, due to changing service provision, Twitter development had to be halted to allow for the service to settle into a more stable form. Existing issues with slow page loading caused by the Moodle's difficulty in handling web services meant that the blocks were deemed not suitable for use in the conference Moodle by the JISC Emerge Moodle administrator. Attempts were made to encourage participants to view the blocks in situ on the development site, but there was little time in the conference schedule for this. As with other web service developments for Moodle, the M3 project Moodle blocks had to be re-written using AJAX to ensure that they would not cause latency issues.

Findings

A range of interview and questionnaire data were collected from project participants both during and after the implementation phases and some observational data was also gathered from classroom-based sessions and in-world meetings. Eight in-depth interviews with participants were conducted, and questionnaires (see appendices) focussing on different aspects of M3 were distributed to particular groups of respondents and the wider student community. These focused on Twitter (3 respondents), the Arrive UK online course (20 respondents) attitudes to social media (50 respondents) and a post-course analysis and evaluation questionnaire (5 respondents). One questionnaire was also collected from the one of the two trials of Twitter during a JISC Emerge online conference. This data helped explain some of the questions around participant uptake of the micro-blogging tool and uncovered student attitudes towards Twitter and Second Life, and to social networking in general. Semi-structured interviews on social media with students revealed a number of areas that project participants felt might enhance their e-learning. Questionnaire feedback gathered in the summer of 2008 revealed that social presence through the process of international contact, language support, maps and location and photos were considered desirable by students for social networking in general, and that students were primarily interested in meeting people and sharing pictures and information.

The project team's own evaluation of the development and implementation of Twitter and Second Life in the context of the Moodle-based course also led to some findings. A general Twitter account had been created for use in the ArriveUK course rather than an individual tutor account. The idea behind this was that the account could belong to the course, rather than the teacher and therefore remain in situ. There were a number of practical and technical issues encountered when using Twitter during the project lifetime. This was not entirely unexpected with a project using newly emerging technologies in a challenging environment. These were identified as:

- 'Friending' of students. This was problematic because the feed has to be checked constantly for new followers (students)^{vi}. There are several options that could be employed:
 - The feed could be left open to allow students to subscribe themselves; a solution which relies both on the students understanding the principles behind Twitter and having acquired enough knowledge to be able to achieve this aim. This option, however, could prove much more problematic in the case of language learners.

^{vi} The Tweetlater service now offers an automated system for replying to @follow requests
<http://www.tweetlater.com/>

- Requests could be made by tutor if students' Twitter account names are known. This relies on the student receiving or checking for notifications, and knowing how to accept a follower request.
- Open access accounts could give access to spammers, so the tutor should only leave the account open for a short time to prevent access by inappropriate or unwanted followers.
- Unreliable service due to frequent changes to the Twitter code and service changes caused a miscoding of information and incorrect results returned to the Moodle blocks. This is a common problem with Web 2.0 services, particularly as they are still very much an emerging technology at present.
- Authentication was another issue with the proliferation of web services. Advanced social networkers have many logins and passwords to remember. There are some attempts at OpenID implementation for web services by providers such as Yahoo, Google, OpenID and VIDOOP, but these are often unreliable and they are not implemented across the board. Therefore a user might be faced with using a university/college login, personal logins, ATHENS or Shibboleth IDs, OpenIDs and/or individual web 2.0 accounts. It would be useful therefore to be able to setup accounts connected to Shibboleth or Active Directory IDs to ease this problem, at least until such time as Single Sign-On becomes available.
- Twitter is still not well explained as a service, and many individuals do not recognise the differences between instant messaging and Twitter. An educational version of the Commoncraft video would perhaps be beneficial for educators wishing to use Twitter for their teaching^{vii}.
- Too many informal messages from Twitter accounts can lead to a 'spammy' feed, which is difficult to read and can lose the flow of the learning. Twitter accounts need monitoring and managing in the same way as other forms of communication.
- The issue of the 'spammy' feed is directly affected by group size and frequency of posts. Large groups will necessarily entail a greater amount of time spent reading the tweets and at more frequent intervals. A small group though seemingly easy to manage can become 'spammy' through imbalances in participation. A quiet group with a single active Twitterer could become a channel for that individual's expression rather than a group space.

In terms of student uptake of Twitter during the two phases, this was extremely low. One student was seen to have created a Twitter account during the course, whilst another was registered but did not become visible due to problems with the Twitter service. This may in part be explained by some of the reasons listed above but other issues also became apparent from the semi-structured interviews:

- Students did not understand the difference between Twitter and services such as MSN or QQ (a popular Chinese instant messaging service), which they were already using extensively.
- One student expressed concern at the lack of privacy, whilst another expressed concern at making passwords visible publicly. (This last was in reference to the 'appearance' of the Twitter account password in the Moodle blocks. Passwords were visible as standard ***** text, and login cookies were not stored beyond the end of the session).

Questionnaires from the wider student community revealed that a lot of students had not received project communication because it had not been forwarded to them by agents in China (who act as intermediaries between students and universities). This meant that they only found out about the online course and M3 project after their arrival in the UK and had missed the opportunity of participating.

In contrast, teacher perceptions of Twitter were different to those of the students, although to begin with many did not understand how Twitter was different to MSN. The ACAMEX tutors received introductions to using Twitter both in SL and the Moodle VLE, followed by in-world activities using Second Life. The ACAMEX teachers regarded Twitter as interesting, and useful for encouraging communication with students. One key feature that they

^{vii} Commoncraft guide to Twitter <http://www.youtube.com/watch?v=ddO9idmax0o>

appreciated was the informality of Twitter messaging and the opportunity to use an emerging technology. It would appear that there is a 'generation gap' with regard to Twitter. Younger project participants may be unable to distinguish between types of social media due to their focus on what they can do there. Students surveyed expressed interest in MSN, QQ, MySpace because their friends play there, so Twitter appeared to be another MSN/QQ to these questionnaire respondents. ACAMEX teachers, on the other hand, once familiarised with Twitter, were able to see the 'bigger picture' and so could see how Twitter differed technically to MSN/QQ.

The data also revealed a number of points about student perceptions of Second Life. Exploration of Second Life, although greater than that of Twitter, was also low among the online students. Post-arrival interviews with a small sample group of students who had engaged with Second Life at the outset of the online course produced some interesting revelations:

- Firstly, students expressed dissatisfaction with the Second Life Orientation process. This had changed dramatically from the orientation process two years previously. In 2006 and 2007, Orientation Island attempted interactive task-orientated for new users prior to their move to Help Island and then the Grid in general. At the time (spring 2008) when the students underwent orientation, they experienced a 'games-type' orientation process which involved, amongst other things, driving a car over rats. One student commented on how difficult this was to do. The process had degraded to a series of simple boards offering basic information about Second Life without any coherent design.
- Distance students accessing virtual worlds required orientation that allowed them to learn the skills they needed for their class quickly and to focus on finding their fellow classmates. It was, unfortunately, beyond the scope of the project to write a custom API to enable students to orientate in a designated space. In addition to this, the API was not entirely stable, and current users such as the New Media Consortium were known to have had problems using the script. (This was discovered by the project during the orientation of the phase 1 student group).
- One key problem for the students was finding their classmates; a problem that was made more difficult by time issues. Students were located in different time zones around the globe, and accessing Second Life and the course at different times of the day. ArriveUK tutors trialled office hours during the course, but issues with time available and time of access meant that chances of meeting students were slim. Despite team efforts to vary times and dates, the variation in times when students could log in made the task very difficult.
- The need for expensive hardware was another key concern, and two students interviewed commented on how they were not able to find the Mac client although this was freely available for download.
- Students expressed some dissatisfaction with the Second Life user interface, lag or latency and other technical problems accessing the service. During personal interviews, students mentioned that access to the Internet was different in China, which meant that they experienced a much slower service than in the UK. Interestingly, one student's use of the word 'latency' indicated that he had pre-existing knowledge of online games. Students also commented on the difficulty of using the controls for Second Life and the difficulty they had in moving. Comments were made about landing in the sea and not being able to get out. One student commented on the use of some functionality, e.g. flying, when there was no point.
- In every case, students were disappointed by their experience of the Linden Labs orientation process. The sample interviewed in October 2008 did, however, view the M3 Project materials favourably and found Second Life itself very interesting. Students interviewed also indicated that they had a social network of friends who were active or knowledgeable about Second Life. All the students interviewed thought that using Second Life for learning about language and culture was a very interesting idea.
- As with Twitter, a lot of students were unaware of the project communication due to agents in China not passing the information on to them. Three out of the five interviewed expressed a preference for having introductory/support materials for Second Life in Chinese to allow them to get started quickly. They preferred Chinese language support materials for both course-related activities and Second Life itself. All

of the students interviewed were working and studying, and as one pointed out, 'I work from 8am until 5pm and when I get home I want to relax, maybe go online and play with my friends. I don't want to read a long English manual.'

- A number of the MA student participants were teachers in China and Taiwan, and expressed concerns with using new technologies for teaching in schools in China and Taiwan for a number of reasons. Firstly, teaching timetables are very full, and most teachers have little time and little access to computers for teaching purposes. They expressed a need for training in using computers effectively for teaching.
- All the MA students interviewed expressed the opinion that 'younger/school age' students would enjoy using Second Life for learning. However, there was a concern that students' timetables were also very full and there would not be time for this form of learning. It was suggested, however, that students could explore them in their own time, but probably not for assignments because there were also a lot of these.
- Issues around access to equipment were also expressed, from computer labs in schools being restricted to computer teachers to some pupils not having access to hardware at all.
- The MA students also stated that they felt that games and Second Life are good ways to learn about languages and culture, and a games-style focus could help motivate younger students. In Taiwan, for instance, there are few foreigners, and students do not always see the relevance of learning English.

Conclusions

An evaluation of the outcomes of M3 has led us to several conclusions concerning the project. It was recognised from the outset that our aim of blending two new technologies with existing conventional teaching and learning contexts was both ambitious and experimental. The technical achievements of the project are twofold and include the successful development of the Moodle blocks, allowing the Twitter social networking tool to be linked directly to the students' online course environment. A suite of in-world learning resources were also successfully produced through the adaptation of existing course 'learning objects' and further enhanced through the addition of a Google map, THINc book and quiz. Interest from the wider community in these outputs has been very encouraging and consequently, all are being taken forward through further development or migration to a permanent Second Life location where they can be accessed. Student uptake of the technologies during the various phases of the project has been more problematic and although face to face interviews have shown them to be both excited and enthusiastic about using these new technologies in the contexts of their formal learning, a number of practical challenges affected their ability to participate in the project to the extent that they, and we, would have wished. Nevertheless, overall we feel that progress has been made in terms of testing the water regarding the use of these technologies in different formal educational contexts and conclude that the project has opened the gate for some worthwhile further investigation.

Implications for future work

There has been a clear indication of potential for further development of the Twitter blocks in response to feedback from the Moodle community. It is hoped that the blocks can become more widely used with further redevelopment using AJAX. As the blocks are open source and will be available for download, customisation and further development in the future may progress them further. Moodle blocks that are well regarded can potentially form part of a 'standard' Moodle download package. An extension phase of the M3 project is now underway and this will focus on dissemination to facilitate sharing of the project findings and outputs.

The M3 extension project is also working to share the project findings with the SL community to enable other educators to benefit from the research. The adaptations of the online course content made for Second Life have been transferred to a permanent location in Second Life – the Modern Languages area of the University of Southampton island. The intention is to develop the language learning and educational potential of this area further through the addition of more resources, building on the experience gained through the M3 Project. This island and the M3 outputs there will shortly be opened to Second Life visitors.

Recommendations

A number of specific recommendations can be made in relation to future use of Second life and Twitter. Some have emerged from the challenges faced using these technologies in the context of the online ArriveUK course. These recommendations are:

- Pre-setting of student accounts for Second Life and Twitter
- Use of FaceBook to encourage a real life social meeting place for sharing
- Make available a ready-made friends (or 'avatar friends') list
- Create a meeting place loaded with resources that are applicable to the learning context
- Teleport students straight to learning location and avoid Linden Lab's orientation. The difficulty with this is the development of the API and increased project costs. There may also be issues around the reliability of Second Life technology for these purposes.

References

eLanguages (2008) Arrive UK: An online course in living and studying in the UK. Retrieved 24th January from <http://www.elanguages.ac.uk/arriveuk/arriveuk.htm>

Jeffery, A., Watson, J., and Crawford, C. (2008) *Cardenio Report*, Higher Education Academy Language Linguistics and Area Studies Subject Centre, Final Report . Retrieved 24th January from http://www.llas.ac.uk/resourcedownloads/3001/jeffery_report.pdf

Appendix 1: Questionnaire about use of technology (Sept. 2007)

Please answer these questions in relation to **ARRIVEUK** (the online course) and other technologies that you use.

For the online course, did you use dial-up modem or broadband to go on the internet from the computer you use?

Dialup	Broadband	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How many Mbs does your service allow you to download

Mb e.g. 1,2,3	None	Don't know
	<input type="checkbox"/>	<input type="checkbox"/>

Where did you access the online course from?

Own PC/laptop	Institution's computer	Internet café
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you know the specification of the computer that you used?

Technical details e.g. Graphics card, Processor

What operating system does your computer use?

Windows XP	Windows Vista	Apple OS X	Linux	Don't know/Other
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What is your time zone/country and nearest big city?

What time of day do you prefer for your course?

Morning	Afternoon	Evening
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you heard of 'Second Life'?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If you have heard of 'Second Life' do you have an account with an avatar?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

Are there any firewalls or restrictions that prevent you accessing or downloading free software onto the computer you are using?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you own a mobile phone?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

Does your phone have internet/web access?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Does it support java technology?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are you charged for receiving text messages?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which of the following activities do you enjoy?

Do you enjoy reading blogs?	www.blogger.com Search for blog content using the Technorati search engine http://www.technorati.com/	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Do you use RSS feeds for downloading new blog posts?	For example news feeds from the BBC http://news.bbc.co.uk/1/hi/help/3223484.stm	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Do you use social networking websites to keep in contact with existing friends? Or to find new friends?	MySpace / LiveJournal / Beebo / Facebook	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Please indicate which, if any, you use	My Space	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
	LiveJournal	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
	Beebo	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
	Facebook	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
	Other – please specify			
Do you enjoy watching or sharing videos online?	YouTube	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Do you enjoy looking or sharing photographs online?	Flickr www.flickr.com	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Do you enjoy social music networks?	LAST FM www.lastFM.com	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Do you enjoy microblogging as a way to keep in touch with your friends?	Twitter www.twitter.com	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Would you use your mobile phone to keep up to date with content from social websites if you were away from the computer?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Are there any other social networking websites that you enjoy?	Please specify			
Do you enjoy online games?	World of Warcraft	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Do you own a console and do you enjoy console games?	Nintendo, Wii, Playstation, X-Box	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Do you listen to internet radio, either directly from a website or through iTunes or LASTFM?	http://www.bbc.co.uk/radio/	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Don't know <input type="checkbox"/>
Are there any other websites or games that you enjoy that we have not included?	Please specify			

Appendix 2: Questionnaire for ArriveUK students post-arrival

Questions about your use of the Internet

We are researching ways that we can improve our courses in the future. Could you please help us by completing the following questionnaire? You do not need to give your name.

1. Do you use any of these; Hi5, Facebook, MySpace, Beebo? If so, which?
2. How do you use it?
3. What do you like about it?
4. Would you like to use it this as part of an online (pre-sessional) course?
5. If yes, how do you think it could be used?
6. If no, why wouldn't you like to use it in a course?
7. Do you like playing online games like World of Warcraft, Everquest or Lord of the Rings? If so, which?
8. What do you like about them?
9. Would you like to have classes in an online game like World of Warcraft?
10. Would you like to have classes in a virtual 3D Southampton recreated online to learn about the city and the university?
If so, what if you like to do?
11. Please tick any ways you would like to talk to your teacher.
Text-based chat (IM e.g. Yahoo/MSN)
Email
Discussion board
Voice-based chat (e.g. Skype)
Social networks (Facebook, Hi5)

Thank you very much for your help.

Appendix 3: Interview/follow on questions for ArriveUK students - October 08

General view

Were you only free to do the course on some days of the week?

- Yes
- No

What time of day did you work on the ArriveUK online course?

- Morning
- Afternoon
- Evening
- Night

What parts of the course were most interesting for you?

- Podcasts
- Meeting Place
- Learning Materials
- Vidcasts
- Chat room
- Contact with tutor
- Contact with students

Were you interested in joining the chat sessions?

- Yes
- No
- Not sure

Were you able to find the time to make the chat sessions?

- Yes
- No

How much time per week did you spend on the course?

- 1-2 hours a week
- 3-5 hours a week
- 5-10 hours a week
- 10+ hours a week

Was there anything that was missing from the course? Choose any of the following that apply

- More contact time with tutor during the course
- More 'live' help from a Tutor in your time zone
- More chances to meet other students
- More chat room times
- Other
 - [Comment on other]

**Please tell us about the information that you received by email, or read in the Meeting Place about using Second Life and Twitter.
Choose any of the following that apply.**

- The information was easy to understand
- The information was difficult to understand
- There was just the right amount of information
- The emails were too long
- Pictures showing me how to use Second and Twitter would make it easier to understand
- Videos showing me how to use Second Life and Twitter would make it easier to understand
- Other
 - [Comment on other]

Second Life

Did the Second Life part of ArriveUK look interesting?

- Yes
- No
- Not sure
- Didn't know about it

Did you set up a Second Life account before or during the online course?

- Yes
- No

Did you use the Second Life account by yourself?

- Yes
- No

If yes, how did you use your account?

Do you still use the Second Life account?

If not, why not?

Was there anything that you found difficult?

1. Setting up a Second Life account
2. Setting up the software on my computer
3. Moving around in Second Life
4. Knowing what to do in Second Life
5. Meeting people in Second Life
6. Understanding instructions about Second Life account or software
7. Learning how to use it
8. Other

Twitter

Did Twitter look interesting?

- Yes
- No
- Not Sure
- Didn't know about it

Why? Why not?

Did you set up a Twitter account?

Yes
No

Did you use the Twitter account by yourself?

Yes
No

If yes, how did you use Twitter?

If not, why not?

Was there anything that you found difficult?

- Setting up a Twitter account
- Setting up the software for Twitter
- Knowing what to do
- Talking to people using Twitter
- Understanding instructions about using Twitter
- Learning how to use it
- Other