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The Library Game – using creative games technology to develop the library, learning and information skills of our students – the story so far

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Background to the game

The University of East London is one of the most diverse universities in the sector, with more than 20,000 students originating from over 100 different countries worldwide, and this diversity is likely to increase. It is well known that students in universities that are committed to widening participation need more rather than less support, and this is one reason for the relatively high use of our libraries. We are well aware, for example, that

the experience of our international students can be very different from our home and EU students. This wide variety of students from a range of backgrounds presents a significant challenge for our important work in introducing new users to library and information services.

The project presented here evolved at the same time as we opened our wonderful new library at our Docklands campus. We sought new ways of promoting these splendid new learning spaces and the services they contain, and we identified games technology as having the potential to provide an innovative and enjoyable way of learning library and information skills. An entertaining and enticing game could replace the rather tired and ineffective library tour often provided at the start of each semester.

We approached Elias Pimenidis, a national expert in gaming software in our school of computing and technology, who thought that teaching library skills would be an interesting application for games technology.

Developing the information literacy of our users is one important aspect of our contribution to our university's learning and teaching strategy. The university's learning and teaching committee encourages bids for projects that will enhance the learning and teaching experience and promote students' success. Such projects are normally awarded to our academic schools, but we took the bold step of making a joint bid with the school of computing and technology to develop 'The Library Game'.

We produced a briefing document outlining the need to develop a library game to introduce our diverse student population to library services. We envisaged a game that would be fun and interactive for both novice computer users and mature gamers. If successful, it might attract more students to use the library facilities and even interest other university libraries in using this approach.

Our bid for some £10,000 for an eighteen-month project was successful – a small sum in view of the ambitious nature of our project, but at least we could experiment with enhancing the experience of learning library skills.

Our partnership approach was crucial. The project team consisted of two library staff – the director of service (Andrew McDonald) and the academic services and skills manager (Simone Okolo) – and Elias Pimenidis, a senior lecturer in the school of computing and technology. The director of library and learning services provided the vision and impetus for the project, guiding and supporting its progress. The academic services and skills manager was responsible for managing and delivering the project, and acted as the library contact for the game's developers. The senior lecturer in the school of computing and technology provided expert academic leadership and support, guiding four of his students through the design, development and testing of the game in relation to our specification. This gave these undergraduates on a computer games programme of study valuable first-hand experience of developing a game in response to customers' requirements. Developing the game using commercial software specialists would have been way out of our financial reach.

The development team faced a number of challenges. They had to capture a real library environment in the game and concentrate on the pedagogic challenge of ensuring that players understood how to use various library services rather than simply playing the game itself.

Educational games in academia

Academic gaming can provide the social and contemplative counterpart of sensual video gaming while maintaining the elements of fun that make games so attractive to a wide range of people. It is these features of the computer games used in academia that inspired the project discussed here.

In designing a computer game developers have to establish the objectives of the game by identifying its desired impact: here for helping library users navigate new library services. This influences the gameplay, especially the motivational elements of the game design. They also need to consider what will make the user continue to want to play the game until the objectives are fully achieved. The impetus to explore the use of games technology in our information skills work lies with the fact that as librarians we continuously seek new and innovative ways of teaching students library skills.

Acquiring library skills as early as possible in their learning careers is essential for students to enjoy success in their academic work. Library skills are about learning how to learn, are part of being an educated person and are valuable lifelong and employment skills.

Learning these new skills is not always easy, and creating effective library induction programmes that enhance the learning of library skills offers

Screenshot from the UEL Library Game

several challenges. It is these challenges that the game discussed here aims at overcoming.

Developing the game

The challenge for the project team was to offer the experience of a virtual-world learning environment to university students. The aim was to present a game that would enhance their experience of gaining library skills, sometimes regarded as a rather tedious and unexciting experience, particularly amongst a student population characterised by wide cultural and educational diversity. In doing so the developers had to overcome the strict training environment of academic gaming, introducing gaming elements that make the game attractive to this diverse student population and, at the same time, maintaining the educational focus.

The game starts on the main floor of the library – the most important part of the library – where librarians, the main helpdesk, self-service machines, online catalogues, photocopiers, printers and binding machines can all be found. The story is of an alien who crash-lands at City Airport and who surfaces in the university library nearby and realises he has to learn how to use our services to survive.

Players are presented with an easy-to-use interface. For each stage of the game the interface presents a set of instructions and this provides continuous guidance for the player throughout the game

The game is subdivided into a set of mini-games. Starting off, the player is required to find a book situated on a particular shelf and, once located, the player will have to pick the book off the shelf and borrow it, using the self-service machines. Each mini-game presents the player with a particular interface, and once completed the game reverts to the initial interface.

There will be five mini-games at the end of the current phase of development. They cover:

- finding a book on the online catalogue
- finding a book on the shelves
- using the self-check machines to borrow a book
- asking a question at the helpdesk
- photocopying a chapter of a book.

The game also features a scoring system to determine the winner and the relevant reward.

The development team initially comprised four students who produced a design specification for

a very early 'pre-alpha' version of the game. The team was subsequently reduced to two students, who continued with two revisions of the original design and, almost fifteen months after the initiation of the project, completed a competent beta version of the game. It is this beta version that is due to be tested by a wide audience of users, comprising students from different schools across the university.

A questionnaire has been developed that aims to capture feedback from all participants in the evaluation release phase of the game. The purpose of the feedback is two-fold: firstly, to provide an analysis of the educational impact of the game on users and, secondly, to allow the developers to identify improvements in the technical and gameplay features of the game.

Some reflections

We are convinced that games software can provide an innovative and accessible electronic environment in which our diverse user-community can learn basic library skills. So many of our new students are familiar with games when they come to university. A well-designed game can provide an enjoyable and unthreatening learning experience which motivates students to learn these important library skills. The challenge is to design a game that not only absorbs and motivates the learner but that also holds their interest throughout the experience. It must concentrate on identified pedagogic aims and embed these new skills in the student's learning. Unlike in other areas of gaming, pedagogy is more important than competitiveness.

Games have the potential to create different learning environments that will be accessible by people from a variety of backgrounds and cultures and by people with a variety of disabilities. The architecture can be diagnostic and can enable players to find out just how much or little they know about the library and then play the appropriate part of the game to develop the necessary skills.

Our project was an ambitious one that would have cost considerably more to develop in a commercial environment. We have developed a beta test game for evaluation, which has the potential to enhance student learning. As a result, the students who developed the game have had invaluable experience of applying gaming theory to a particular situation and this work will enrich their CVs. Library staff have had invaluable development experience of managing an innovative learning-enhancement project in collaboration with an expert in an academic school. The library has demonstrated its continued commitment to innovation in information literacy and to student success. The project has already been presented at our university's annual learning and teaching conference and at a European conference on games-based learning.

Although this is only a welcome start for us, it is likely that games and virtual worlds will play an increasingly important role in developing the learning and skills of our students.

Further reading

B. Gros, 'The design of learning environments using videogames in formal education', in *DIGITEL 2007: The First IEEE International Workshop on Digital Game and Intelligent Toy Enhanced Learning*, DIGITEL'07, 2007, p.19-24

E. Pimenidis, 'Developing a computer game for university library induction', *European Conference on Games Based Learning*, Glynhill Hotel, Paisley, Scotland, 25–26 October 2007, Reading: Academic Conferences Limited, pp. 215–25