A Virtual 'Hello' for the Harrison Learning Centre – A Web-Based Orientation Concept

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Background and rationale

The Harrison Learning Centre (HLC) in the University of Wolverhampton is a purpose built, four floor building containing a blend of hi-tech resources with traditional library services. The HLC acts as a resource support to 14,000 students entering the University with a wide range of educational, social and cultural backgrounds. The physical layout, the wide range of subjects, multi enquiry points and the combination of electronic and printed sources can be overwhelming to the new student. The introduction of the CeLT funded project in 2002 – 'DIY tour guide to the Harrison Learning Centre' went some way to address the problem of orientation and feedback from staff and students was positive (Granger 2003). However advances in technology have lead to increased expectations from students and it is important that these are built into their learning environment. In addition information is increasingly being made available in electronic format so students now need skills to navigate both the physical and the virtual environment.

The innovation

Following the success of the DIY tour guide in 2002, it was our wish to develop the concept of active learning further by embracing technology supported learning and developing a virtual tour of the HLC and it's resources. With high profile links from University web pages this virtual tour is accessible to all students and staff with Internet access. The benefits of multiple navigation options enhanced with advanced new media web features including 3D graphics, simulations and animation has enabled students to engage in an interactive learning experience as individuals or as part of a more formal structure of induction program.

The development of the virtual tour has for the first time provided students with seamless navigation between the two environments, locating and accessing areas which support their subject need using modern technology at a time and place convenient to them.

This method of learning also has an impact on the widening participation agenda bringing obvious benefits to a range of students i.e.:

- Students with mobility problems
- International students who may struggle with the text based information
- Young students who are comfortable with virtual environments
- Distance learners
- Students at partner colleges.

The research

Due to the wide range of backgrounds that the students using this resource might have, the project team decided to design several user profiles to obtain an idea of how different students would use the tour. The profiles included age, library experience, computer and Internet experience, knowledge

of the HLC, typical tasks the students might want to complete in the HLC and the specific benefits they would receive from using this electronic resource. Although the information ascertained was theoretical, it helped the team greatly in the design of the navigation, interface and content.

Further to the user profiles, research was conducted into existing web-based Learning Centre virtual tours. Using a set of marking criteria developed by a meta-analysis of virtual tours in Association of Research Libraries (Mack & Oling, 2002), we scored the resources found against 27 criteria.

The results of our research highlighted some key points about the tours produced:

*   They were small and insignificant in relation to the websites they were embedded into.
*   There was little thought about what the benefits of a tour should be.
*   They were mainly made up of a series of images with a small amount of explanatory text.
*   Very few of the tours built up an effective graphic representation of the area/ building they were visualising.

Nevertheless, as a result of studying these tours (and other non learning centre tours), the project team built up an idea of how best to go about designing the resource.

The Virtual Tour

Tour website address: http://asp2.wlv.ac.uk/webteam/service uploads/learningcentre/virtual tour.html
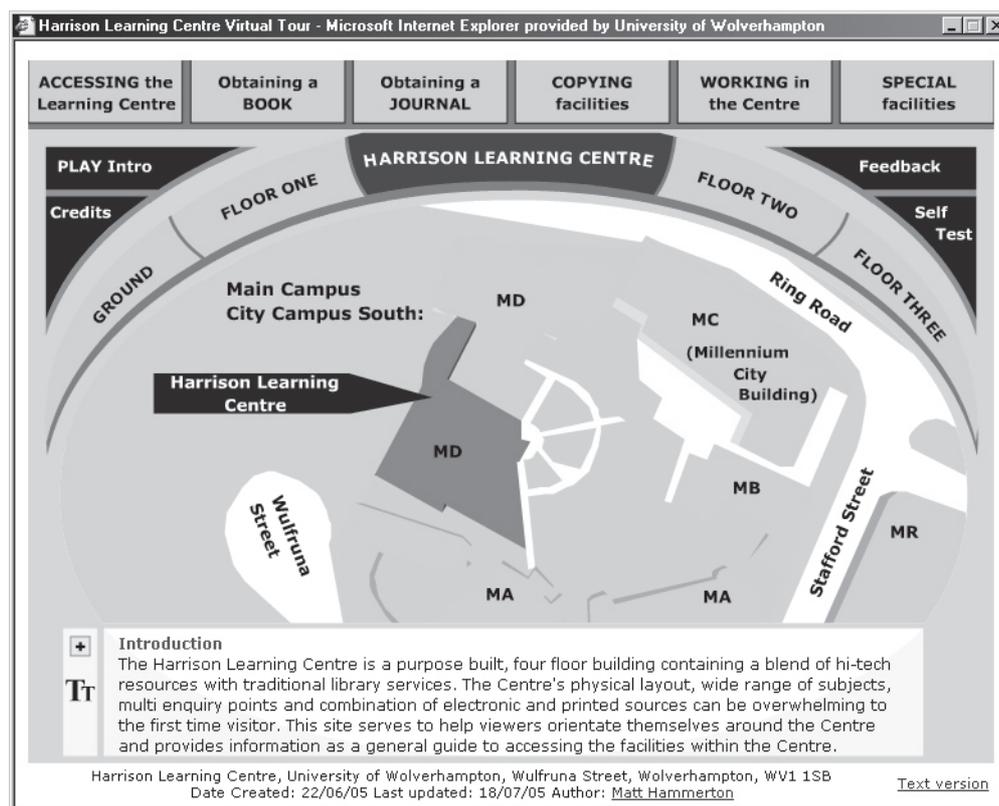
The tour is made up of 2 parts: the navigation and the content. The navigation has been designed to allow students to explore the HLC by task (e.g. obtaining a short loan book) and by area (e.g. finding out what is available on the third floor). In selecting a navigational choice the student is then presented with a 3D graphic representation of the HLC, an image and a small amount of text. Due to the uniqueness of the site, the team decided that the viewer should be shown how to use the site as an introduction to the resource. A skip intro button was therefore included to allow the viewer to bypass this section.

Joss Granger, the Senior Academic Resource Librarian, produced the text to cover all the relevant information that the team felt the user would need to access. We attempted to limit each section of text to 5 lines of 12pt in order to avoid doubling up of information between the resource and the University Learning Centres' website. Text was written in conversational style due to the proven improvement in user engagement with a resource when such a style is used (Clark & Mayer, 2002). All the website text is contained in an external xml document which can be easily updated by anyone who has access to it.

The images, also contained in the external xml file, were added to the resource to help users relate to the different areas and tasks that could be completed inside the HLC. The style of image was chosen to reflect the informal friendly nature that the HLC presents. The majority of images included people and interactions. David Williams, the University photographer was used to obtain the images and provide the disclaimers. Images were then optimised for web viewing.

As the graphic is the main part of the resource, a considerable amount of time was spent on it. Initially, it was thought that the floor plans designed for the DIY tour guide could be adapted for use in the resource. However, the team quickly realised that due to their simplicity, the DIY tour guide plans were not appropriate for the resource and subsequently other options were considered. The final graphic was designed by the team and two Interior Architectural Design students. The team designed accurate 2D plans of the HLC which were then converted into 3D graphics by the students. The graphics were then rendered and embedded into the resource interface.

Two key issues in the design of the 3D graphics were file size and the realism of graphics. The graphics used represent our perceived optimum balance between these two issues such that the graphics are complex enough to give the viewer a realistic visualisation of the HLC yet simple enough to allow them to be viewed quickly via the Internet.

The formative assessment exercise

The inclusion of a self-test exercise is for the benefit of all students new to the HLC and the resources it offers. The test is customised to the individual students depending on what degree programme they are studying. Through completing the exercise, students will be able to demonstrate that they have a basic knowledge of the HLC giving them a better foundation on which to progress through their studies. The exercise is scored and the results are loaded onto a database allowing support staff both in the HLC and in the Schools to help any students that demonstrate a weakness in their knowledge of the HLC.

Usability testing

Navigating the tour is done by selecting a task from a sub-menu contained in one of six main menu options. In order to ascertain whether the final users would find navigating to these tasks intuitive, a small group of students and colleagues were tested. This was done by giving them a list of tasks and asking them under which main menu option(s) they would place them. As a result of the testing, amendments were made to the provisional placements of tasks under the main menu options.

The interface including navigation and contents area was tested using performance measurements. Users were given a set of tasks to execute (e.g. obtain information about borrowing a video from the learning centre). The number of attempts they took to complete these tasks was then measured. The quantitative results and the verbal feedback received from the users provided the team with information on how to improve the interface design.

Accessibility was another key issue in the development of the resource especially as disabled students were one of our highlighted ranges of students. Macromedia Flash MX™ was used to develop the site as it provided the best method of combining lots of images, graphics and text in a streamlined website that would conform to W3C's Web Accessibility Initiative priority 1 guidelines (Hammerton, 2005). Three testing sessions were conducted. The first session was used to design appropriate colours for the site considering the number of visual impairments that users may have. This was done using a program called ColorDoctor™ which allowed us to view the site as though we were a user with

monochromatism or dichromatism colour vision deficiency. The second testing session involved viewing the site without using the mouse. This proved to be successful, allowing us to access all the information and graphics. The third session involved using JAWS screen reader software to test the site for users with severe visual impairments. This testing session highlighted some usability issues which are currently being resolved.

Evaluation

So far, feedback from staff in the HLC, IT services and Web Development Team has been very positive. From the electronic feedback forms received, 86% of people found the navigation of the tour easy and intuitive to use, 100% of people accomplished what these set out to do, were able to work out where resources could be found in the HLC and found the website text helpful in learning about the HLC. A positive 83% of people answered yes to the question; 'Would you use the website again to find out information about the Centre?'

Summary and Future Developments

The virtual tour has received a high level of positive feedback by staff at the University of Wolverhampton. The tour will, for the first time, provide students with seamless navigation between the two environments, locating and accessing areas which support their subject needs at a time and place convenient to them. Nevertheless, due to the stage of delivery that the tour is currently at, this is still to be observed.

Possible future developments in the tour may include:

- Further customisation of the formative assessment exercise so that students in their second and third years of study can demonstrate their increased levels of knowledge of the HLC as they progress through their degree.
- Textual information on the HLC being available in multiple languages. This will improve the widening participation objectives of the tour making learning about the HLC easier for International Students were English is not their first language.

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