Technical Case Study

Medieval Studies 1: Beginnings of English – Q31207
(School of English Studies)
WebCT Interface Design

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November 2007
1. Introduction:

The purpose of the WebCT course in this module is to make available to the students all the information they need. The module is called “Beginnings of English”, has module code Q31207 and is taught by the School of English Studies.

Because this WebCT course needs to include different types of resources (such as basic texts, lecture notes, practice activities and quizzes), besides some information of general use to the students, a basic structure for the interface was agreed which could include links to all these types. The “look and feel” of the WebCT course is an important aspect of this project since it should deliver the content using visual aids related to the module’s subject – itself one rich in visual and symbolic images.

Fig. 1. Final look and feel of the course in medieval studies (“Beginnings of English”) in WebCT

Creating such a visually orientated interface should help users relate to the topics in the module, giving them a stimulating visual environment that is easy to use and that simplifies navigation through the material.
To create such a course with WebCT’s graphical user interface (GUI) – itself rather a limited graphical environment – it was necessary to create a layout for the course considering the following:

- The structure of the course and the different types of content;
- The best use that can be made of WebCT’s page options that allow customisation of the main page, the header and the footer;
- The creation of customised icons and buttons that bear some relationship to the module’s subject matter and the different types of information;
- The customisation of WebCT’s toolbar to reflect changes to WebCT’s main screen.

Since the standard GUI of WebCT has limited graphical customisation, the best approach is to recall that the main purpose of any WebCT course is to deliver e-Learning in a way that makes it easy to use; it is good practice, therefore, to avoid any customisation (e.g. over-elaborate visual customisation) that can confuse the users.
2. Layout Design Analysis

With all the above in mind, a “mock-up” of a possible page was created to experiment with different features of the course whilst at the same time applying a branding to the page as a whole. This included not only basic elements (such as buttons and other navigation aids), but also identification elements such as a logo mark and a specific set of colours.

To create this simulation, some basic design ideas were taken into consideration such as:

a) The style of artwork – with mediaeval illuminated manuscripts providing inspiration for the graphical elements;

b) A manuscript “look and feel” design for the main area of the interface.

It is important not to go too far with the artwork when imitating the illuminated manuscripts otherwise all the available space may occupied by it (something to avoid in any GUI). It is also important to remember that the main purpose of the GUI is to deliver information in an easy-to-access graphical environment. Therefore, the mock-up created with a branding that is effective in this particular medium (the computer screen instead of a physical object such as a book or parchment). Other considerations, such as copyright were also thought about.

The branding has to be neutral in its use of sources of inspiration. Instead of recreating existing examples, only original artwork (hand-drawn using themes taken from examples found in general sources) was used.
3. Layout Design Production

The look and feel finally agreed consists of a header (which occupies the full width at the top of the main WebCT screen) and a main screen where the buttons that give access to the separate parts of the module and the different resources are placed.

Using scans of hand drawings and other sketches made during the initial analysis, all the artwork was redrawn in vector shapes using Adobe Illustrator, so that it could be reused in any part of the interface without loss of quality. Having source files in this format, allows the same elements to be reordered, rebuilt and re-used in different parts of the layout, such as the buttons, the logo mark and the header.

A vector drawing software package such as Illustrator offers the artist the means of taking work from the initial analysis and developing it as polished images with exact proportions and sizes.

A simulation of the entire GUI (with a screen capture of the WebCT interface as its background) was created in an Adobe Photoshop document. All the graphical elements prepared in Illustrator were then imported into this document.
Photoshop allows an image of multiple layers to be composed with each layer containing one element. The position of all the elements can therefore be changed allowing the designer to see all possible combinations of individual elements and groups of elements before deciding on a final version. From this final image bitmaps can be made that will be included in WebCT.

Bearing in mind that the artwork has to be displayed in different ways in WebCT (in the header and in the main screen of the interface), a background was also created in Adobe Photoshop that simulated a parchment, unifying all the visual elements and giving the user a feeling of continuity in the layout.

With all the elements placed in their correct positions inside the Photoshop document, the look and feel that will be displayed in the finished interface can then be completed by adding different Photoshop filters to all the artwork. These filters add an “organic feel” to all the elements (simulating, for example, ink and dust marks).

Another important step before starting the final production phase is making a colour deficit simulation, to ensure that all the graphical elements have enough contrast for users with different types of colour blindness. In this instance, the Vischeck Photoshop plug-in for colour deficit simulation (www.vischeck.com) was used so that all the artwork could be optimised for Internet use.
After all the optimisations have been done, the artwork is ready to be divided into different bitmaps to create the separate graphical elements of the interface. These are used for the logo, the header background and other header elements; they are controlled through HTML.

A separate Photoshop document was created to serve as a size and filter pattern reference for all the buttons created, thereby ensuring that the same filter and effects had been applied to all the buttons and again creating an appearance of uniformity in the layout.

All the different graphics cut from the layout can now be saved with optimisation for the web, balancing image quality against the loading time in web browsers.
Adobe Dreamweaver was used to write the HTML header (both edit the HTML and the CSS styles) that was subsequently exported to the header area in WebCT. To use both the left- and right-hand elements of the banner (the logo and the right-hand side of the division element), it was necessary to duplicate a sample of the middle of the header so as to be able to tile horizontally (i.e. along the x-axis) using the HTML code. Using this bitmap element is important because it ensures that the header inside WebCT adapts to different screen resolutions, connecting the left- and right-hand graphics without the layout ever appearing to differ.

The same repetition of a graphical element was used in the main WebCT screen below the header (where the buttons are displayed) using a horizontal strip of background created in the layout. This was repeated vertically (i.e. along the y-axis).

The header structure was put together in Adobe Dreamweaver assigning a CSS style to each graphical element in the HTML code and locking the element’s position so as to prevent the page being rendered differently at different screen resolutions.

Allowing for all HTML possibilities in the CSS file permits easy adaptations or changes of layout to be made in future since all possibilities are in just one file – this saves time when any layout or style changes need to be applied to several different files.
In this particular case, only one HTML file was produced (viz the header to be shown in WebCT), but the properties of the different cascading styles used were also useful for producing more efficient HTML code that appeared the same when tested at different resolutions and in different browsers.

With all the graphics now ready, they can be uploaded to the course. It is important to create a folder structure that suits both the module content and the graphics files (bitmaps, HTML header and CSS files) to be used. Once in the course, the graphical elements can be used whenever required without any further uploading necessary.

The banner was placed on all the course pages using HTML by editing the WebCT header in Page Options/Edit Header (under the Build tab). This allows access to all the properties necessary for this HTML file and uses the URL of the banner as recorded inside the folder structure. One important property is the height of the header since it lets us blend the header with the main screen.
In Page Options/Customise Page Display (under the Build tab) the different parameters (such as “Columns” and “Icon Placement”) of “Layout Templates” were changed for all the buttons. The background tiling was also set up in this Custom Layout using the strip uploaded previously.

Now that the new buttons have been uploaded to WebCT, all the existing learning modules and link icons inside the course can be personalised by replacing the default WebCT icons with the new ones. (This requires the Edit Properties/Replace Icons option in the Actionlinks for each item found under the Build tab.)

The final task in customising the layout of the course is to change the colours of the course tools accessible to users (changeable in the Manage Course/Colours option). For this, a custom colour set was chosen which was the colour palette used in all the artwork.

By using these WebCT customisation features, the entire layout designed in Photoshop can be replicated effectively in WebCT by using HTML, graphics and the native options of the WebCT GUI.
4. Practical Use and Conclusion

The above tasks completed the layout of the course giving it a look and feel reflecting its mediaeval subject matter and making it ready for the instructors and end users.

This project was competed in approximately 45 to 48 hours, including time spent assisting the English Studies staff in using WebCT and at brief approval meetings. Some of the methods described above reduced the production time, by reusing parts of the vector graphics in different parts of the layout. Also some of the graphical details of the two initial proposals submitted for the client’s approval had common graphical features, which were reused to complete the final look and feel study.

Dr Christina Lee was delegated from the section instructors (who have full access to the course) to maintain and update all the eLearning materials and resources. Lecturers wanting notes updated were to send them to her for conversion to PDF and subsequent uploading. A template was created for branding any new notes thus unifying all the material.

The course has been updated as the contents are being delivered by different lecturers and a series of quizzes and practical activities are also being delivered, using WebCT’s assessment tools.

Although there is still no formal evaluation of the way this project has been received by the students, the initial feedback from the lecturers themselves has been favourable. A future meeting to plan and create possible ways of evaluating the project is planned.