A template for the future?

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The Regency Town House

Abstract

This paper focuses on a research programme to develop simple to use multimedia software authoring tools designed specifically for use in museum environments and by museum staff. It is argued that the development of such tools represents a viable way for museums to help meet visitors aspirations for interactive media based presentations and that this approach can limit the costs normally associated with providing such facilities.

Introduction

Located on the South coast of England, in a Grade 1 Listed terraced home of the mid 1820s, The Regency Town House is a developing heritage centre and museum focusing mainly on the evolution of Brighton and Hove during the late eighteenth and early nineteenth centuries. At this time in history, broadly defined as 'The Regency', the Brighton area came to enjoy an unrivalled position as a seaside spa resort for 'fashionable' society, a development that is today reflected in the towns' rich architectural and cultural heritage.

The project aims to raise public awareness and appreciation of this Regency legacy in three principle ways:

- Refurbishing The Regency Town House to provide visitors with the opportunity to explore a traditionally refurbished historic home.
- By staging traditional outreach activities such as exhibitions, demonstrations and lectures that take information about the period to the largest possible audience.
- By using computer systems to provide public access to the records, documents and products of the Regency era.

This third area of our work currently involves digitising archives of historical texts and images; evolving a web site through which we can deliver historical information; building interpretative interactive presentations for kiosk and CD-ROM; and designing multimedia authoring tools that allow such interactive products to be quickly and easily assembled by inexperienced users. It is this latter area of our work upon which this paper is focussed.

Before progressing further, an important point should be emphasised. Whilst our in-house work programme suggests that we are a well-funded institution with significant levels of human and technical resource, we are

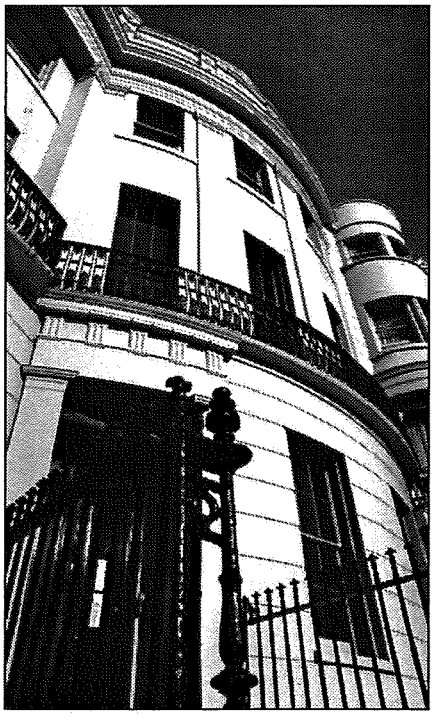

Figure 1: The Regency Town House

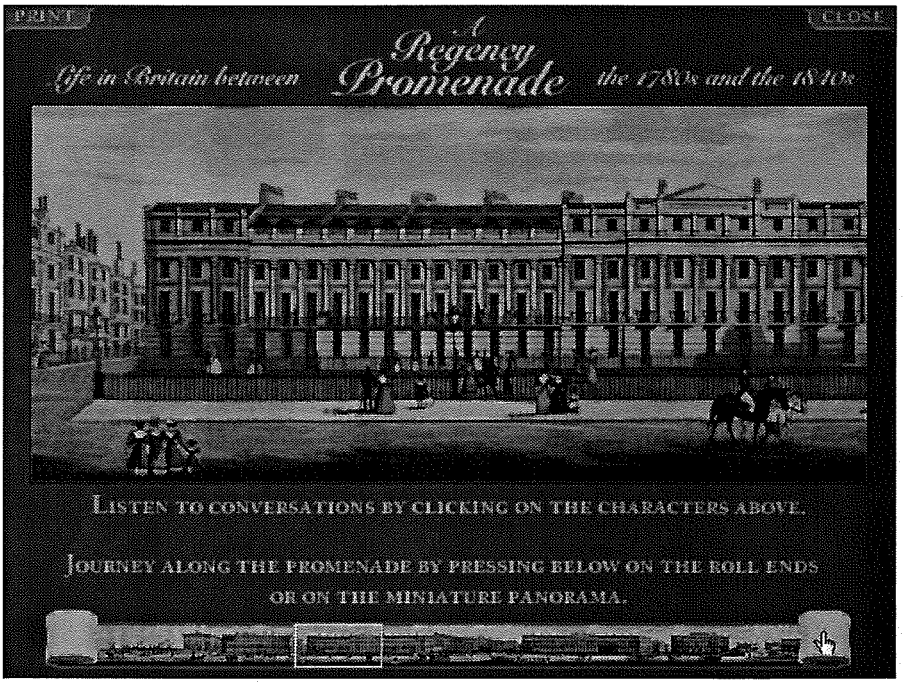

Figure 2: 'A Regency Promenade'. Screenshot of the main interface or, 'first level'. Note that the instructions for use of the system are provided below the large scrollable panoramic picture and that the area of the panorama on view in the main window is indicated by the boxed area within the miniature panorama.

in fact a small project working with very low levels of financial support. This factor, more than any other, provided the impetus for us to develop low-cost and easy-to-use authoring tools.

Early Work - Promenade

During the early to mid 1990s we built a number of software presentations designed as possible front ends to our database of historical information. In doing so, we explored a wide variety of interfaces including natural language, command line and iconographic systems. The purpose of this exercise was to determine which was most pleasing and informative for our different experimental user groups.

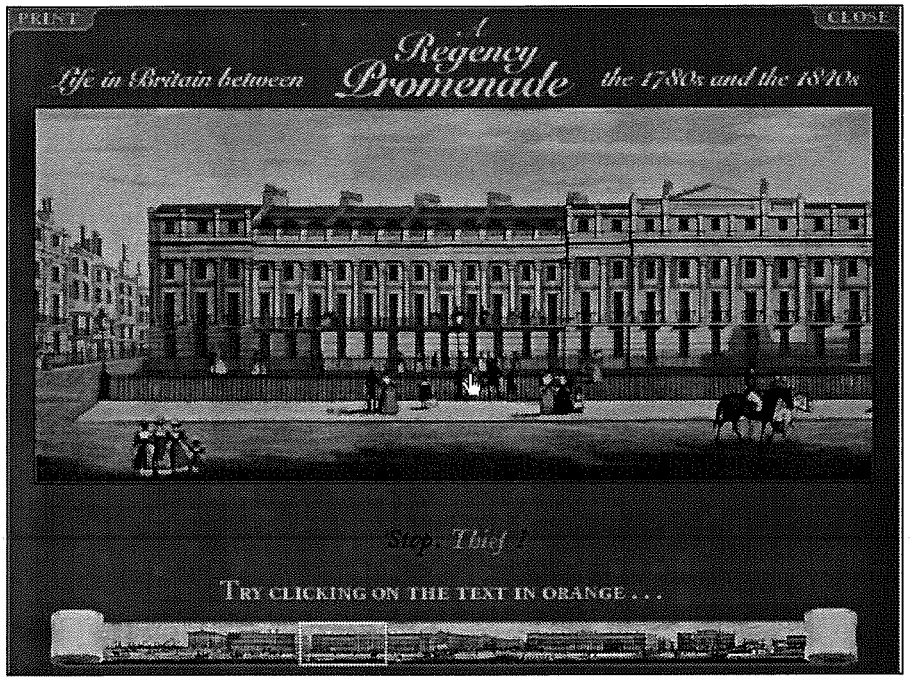

Figure 3: 'A Regency Promenade'. Clicking on the central character group in this screen shot elicits the spoken narrative 'Stop. Thief!' and the display of these words, as text containing a hyperlink, on the monitor. Clicking on the hyperlink navigates the user to a 'second level' of the system.

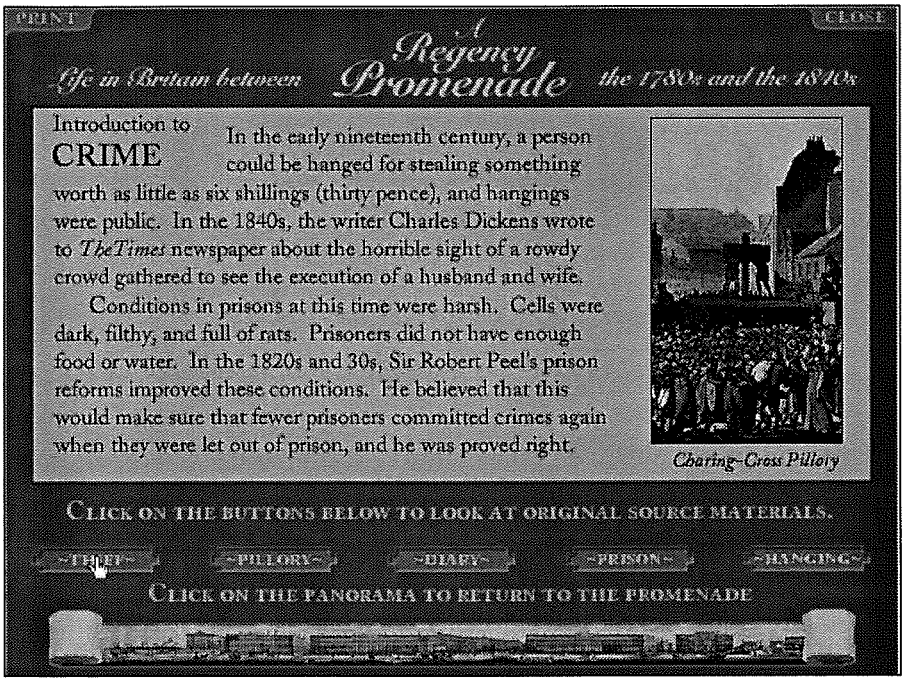

Figure 4: 'A Regency Promenade'. At the 'second level' a text based introduction to the character group's 'topic' is provided, in this case, the subject of 'Crime'. Beneath this the user is offered a selection of buttons that will navigate to a 'third level'.

By far the most successful of the systems we designed and tested was 'A Regency Promenade'. This presentation was based on a 3 metre long panoramic picture, produced in 1833, showing Brighton's sea-front buildings and a variety of individuals walking and riding along the promenade. Users were able to scroll the picture left and right and, by clicking on the characters in the foreground of the image, they could hear them speak. As well as playing a sound file, the system displayed each character's statement as text on the screen. This text contained a hyperlink to further historical information at second and third levels of the presentation.

This playful and serendipitous 'browsing' system of information access proved to be extremely popular and led us to develop several specialised forms of the presentation for in-house purposes. Over time, the popularity of the product led other institutions to ask that we produce modified versions that could accommodate their picture and sound files. An example of such a derivatised program is 'Festival Promenade'. This presentation, about the influence of oriental art in the Georgian house, is exhibited on touch screen displays within two museums in the city of Bath.

Unlike 'A Regency Promenade' which used a historical print as its central image, 'Festival Promenade' employs a modern drawn image produced to show the architectural facades of key streets through the city. Furthermore, while the original 'Promenade' system had only one main panorama, 'Festival' employs three, with the main image being interchangeable for a second showing a timeline and a third providing an alphabetical search function.

After producing several variations on the 'Promenade' theme we concluded it would be useful to have a

'templated' software authoring tool, that would simplify and speed-up the making of such presentations. It was clear to us that software of this kind could not only assist our own work programme, but might also have significant and far wider implications.

Template Tools

A problem facing many museums and galleries is that they lack the resources needed to commission interactive multimedia presentations or to train staff in the use of commercially available authoring packages. Even larger institutions often find it difficult to develop interactive media that supports short-term exhibitions and events. A simple-to-use multimedia authoring tool that would enable inexperienced users to create interactive presentations quickly and easily could be of great value to many in the museological community.

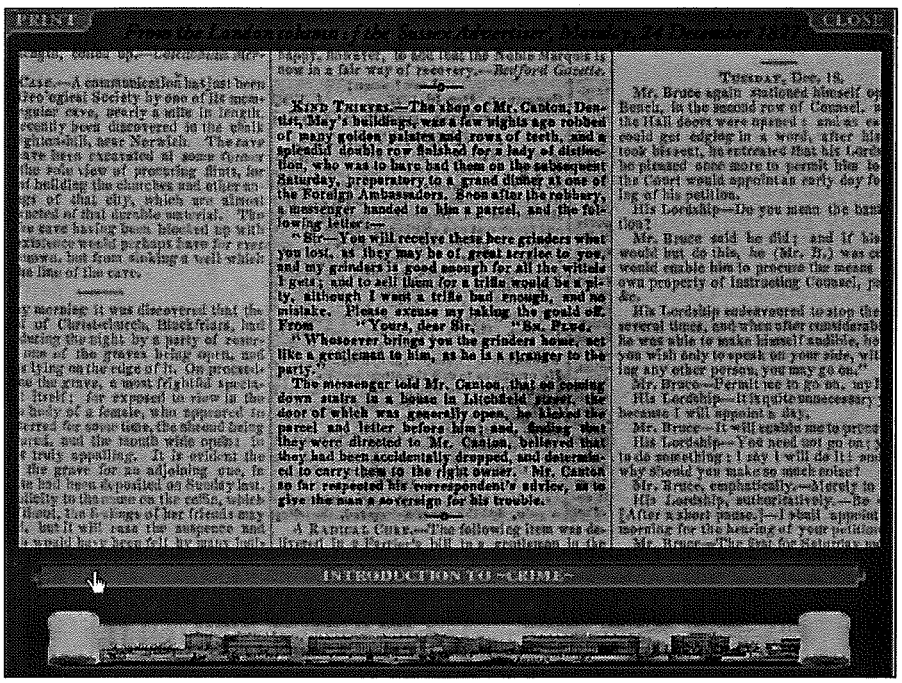

Figure 5: 'A Regency Promenade'. This screenshot illustrates one of the source materials available to the user at the third level of the system. Besides text based sources the user can look at pictures and listen to extracts from diaries of the period being read, by using the buttons on the 'second level'.

Figure 6: 'Festival Promenade'. This screenshot of the main interface illustrates the system's similarity to the Regency Promenade presentation.

This concept became the foundation of a successful grant bid to the Department of National Heritage (now the Department for Culture, Media and Sport) who provided us with the balance of the funds we needed to pursue a research and development project into the viability and use of templated authoring tools.

With funding in place, we began by conducting interviews at museums around the country to determine the acceptability and practicality of our proposal.
We asked museum staff and visitors to address a number of critical factors, including:

- The level of computer literacy and the computer resource within museums.
- Opportunities for museum staff to access expert advice from external sources.
- The enthusiasm of museum staff to make and deploy multimedia presentations.
- Visitor interest in such presentations.

During these sessions, interviewees were shown different types of interactive media ranging from simple, low-cost products to presentations built for major international galleries. The visual content, navigational systems and underlying structure of the different examples were all discussed, and we asked which elements they found appropriate for use within their own institutions. Most agreed that graphically rich and 'playful' presentations with logical navigation and not too many layers of information were preferable. They also noted that, if they were to be involved in making presentations, large information systems were undesirable as there assembly would prove too

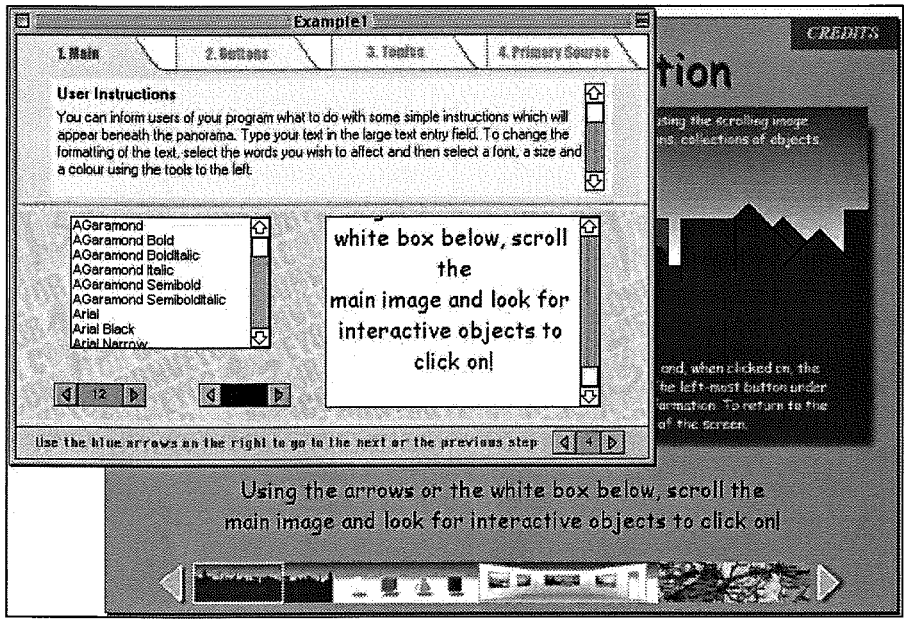

Figure 7: 'The Conveyor Wizard Window and behind that a Presentation in-build'. This screenshot illustrates step 4 of the 'Main' tabs routine being undertaken. The user progresses through each routine on all four tabs to complete a presentation. The system can be played 'live' throughout the build process.

demanding of their available resources.

Following this initial information gathering process, we embarked on a programme of testing, evaluation and iteration with a selected group of museums to refine different prototype authoring systems. These ranged from ones offering considerable flexibility of functionality and layout, to others that were tightly constrained, although very simple and quick to use. In time, we evolved better systems, including ones that used scrolling images and panoramas, for which most of the test group expressed a strong preference. They found them visually attractive, easy to comprehend and straight-forward to navigate. Importantly, many of the group were reasonably confident that they would be capable of building these types of presentations when we described how the authoring system might work. Not long after this period of consultation and while our software was still at its early stages of development we learned of a grant call from the Scottish Cultural Resources Access Network (SCRAN). This project is digitising cultural and historic records and making them available to schools across the internet. We approached SCRAN with a view to developing a templated authoring tool that could be used to make scrolling image presentations from their digitised records. The experience of building this was clearly going to enhance our understanding of templated authoring systems in general and our ability to make them.

Following the success of this grant application we evolved our first fully working version of a scrollable authoring tool for use within the SCRAN network while thereafter, we pursued and refined the development of a similar product for use in English museums. This final version of our software, called 'Conveyor', was introduced to the museum community at a series of events through the spring of 1999. These included South East Museum Service sponsored training initiatives, the Museums Computer Group spring conference in June of that year and several BBC broadcasts.

Conveyor

In keeping with the original Promenade concept, Conveyor creates presentations that are three-level information systems. The first level consists of the main navigation window containing a long, scrollable image, onto which up to 40 interactive areas can be defined. Clicking in one of these areas causes a sound file to be played and a text file to be displayed. 'Hot links' in the text take the user to the second level of information, known as the Topic Screen. From each Topic Screen, the user can access up to 5 examples of third level information displayed on 'Source Screens'.

Building a Conveyor presentation could hardly be easier. Once the necessary digital assets have been gathered and sized appropriately, the step by step instructions of the carefully designed 'Wizard' interface guides the builder through the entire process, providing a full visual overview of the product being built.

Within a couple of hours of working with Conveyor for the first time, the background, main moving image and navigation buttons can all be in place. Following this, Topic Screens, Source Screens and sound files are added. If a screen doesn't look appropriate once in place, it is a simple matter to replace it with another. Indeed, in experienced hands, Conveyor enables a simple presentation to be assembled in minutes, as was demonstrated at this conference.

Digital Books

During the early stages of our work on templated authoring systems we began to consider the implications of this approach for a second research initiative we were pursuing, the production of digital books. The concept behind this work was straightforward. The world's libraries and archives hold countless rare and fragile books that scarcely see the light of day. Although comprising a cultural resource beyond compare, access to these works is often difficult for scholars and all but impossible for members of the public. We were seeking to design a software product that would enable low-cost digital copies to be distributed on CD-ROM, played on ordinary desktop computers and which would allow the user to

interact with the book as though it were a real object open on the desk in front of them. If we could accelerate the production of such books using the template approach it would clearly be advantageous.

As we began our research our initial concerns were:

- To determine whether it was fundamentally practical to represent a printed antiquarian work on the screen while retaining the 'look and feel' of the historical document rather than losing it in a text editor window.
- To asses whether we could enhance the presentation of the book with useful technical features such as a word search function.
- To evolve easy-to-use interface designs that would encourage use of the books by the widest possible audience.

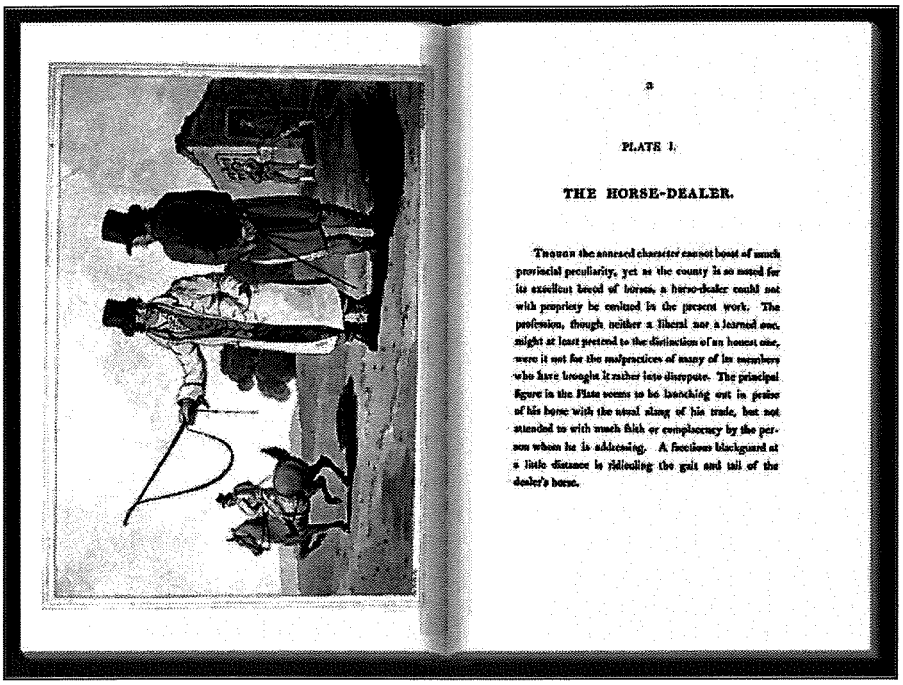

Figure 8: 'Costume of Yorkshire'. This screenshot shows the 'archive' interface of the Costume digital book. On touch-screen and mouse-driven systems the pages can be turned by mimicking the flicking action associated with turning a real page.

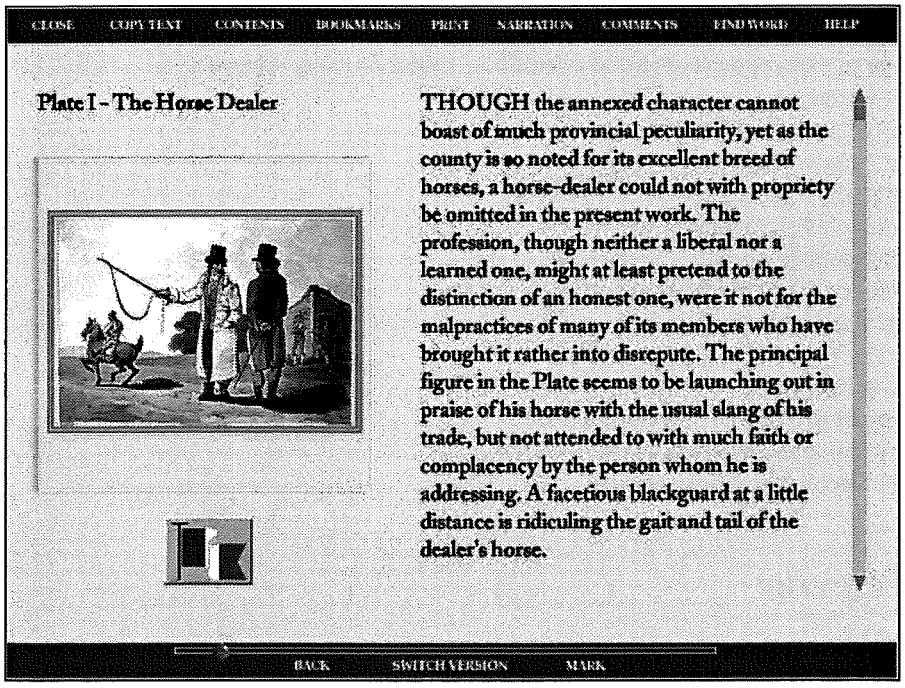

Figure 9: 'Costume of Yorkshire'. This screenshot shows the 'modern' interface of the Costume digital book. The menu options in this mode are permanently displayed on the screen whereas in archive mode the menus display 'edge functionality' so as not to detract from the users appreciation of the book.

Following initial experimentation we decided to make a complete one-off digital book in order to evaluate these and related concerns. This product was intended to provide us with feedback that would help shape the design of the digital book authoring system we planned to evolve later.
We selected the 1814 publication 'Costume of Yorkshire' by George Walker and built a presentation in which the user is able to switch back and forth between two different viewing modes, 'archive' and 'modern'.

In archive mode the book is presented as if open on a table in front of the viewer. If, in the original work, the text was slightly skewed or images were placed sideways on the page, this orientation is maintained. Because preserving an authentic layout does not necessarily make the content easy to assimilate, the user can access an alternative modern mode. This transposes each page into a simple 'card' format with any associated images rotated, if necessary, for upright viewing.

Whichever mode the user is in, the functionality remains much the same. Pages are turned by using the cursor to mimic the action of turning a physical page, or by using a slider control bar. The plates and text can be zoomed for closer inspection, electronic bookmarks can be inserted, a word search of the text can be executed, and text and pictures can be output to another document or a printer. If, as was sometimes the case, a book was bound with the text translated into more than one language, there is the means to switch simply between such translations. To add further versatility,

a facility to play back a spoken text narrative and expert commentary has also been included.

This digital book, known simply as 'Costume', was immensely well received in user testing. Moreover, the benefit of a templated authoring system capable of making similar products quickly and economically was obvious to many in the archive, library and educational communities, including representatives from the Public Record Office.

Shortly after Costume was completed we were fortunate to obtain a Heritage Lottery Fund award, a portion of which was to make a second digital book based on the published works of the Regency architect, C A Busby. We have been able to begin the development of a templated book authoring system while completing the 'Busby Book' and we hope to receive further grant aid during the year 2000 with which to finish the production of this software authoring system which we have named 'PagePlayer'.

Conclusion

Since its launch in April 1999, Conveyor has proved to be an extremely popular product. As this paper is delivered, some 65 copies of the software have been distributed to English museums and the first completed presentation is due to be unveiled to the public in February 2000. While this will focus on the architectural history of a country town other Conveyor presentations currently in-build are known to be based upon archaeological digs; ceramic, coin and costume collections; and immigration routes into Great Britain.

From the success of Conveyor and the interest in the PagePlayer concept, it is clear that templated authoring tools enabling the rapid and inexpensive production of digital products have much to offer the museological world. They can provide interactive media to support in-house exhibitions, produce powerful and marketable educational presentations and, in some instances, offer the conservation benefits associated with providing digital 'access' to the rare and fragile items held in museum collections.

As visitor's expectations rise we are faced with an ever greater demand for entertaining and informative interactive presentations, yet the financial constraints within which we work make meeting these expectations increasingly difficult. We believe that one solution is to empower museum staff with the means to produce presentations, quickly, simply and economically, and that templated authoring systems of the type described here offer a practical way to achieve this.

We will continue to seek funding for Conveyor so that we can further refine and upgrade the software to provide users with a more powerful and versatile authoring tool. In the longer term we would also like to establish collaborative arrangements with funding agencies and institutions in other countries so that we might 'regionalise' the software and make Conveyor available to museums around the world.

In this paper we have talked principally about a single product called Conveyor. In closing we would like to express our belief that a family of Conveyor-like 'assembly' tools could and should be built. Such programs would fulfil specific presentational needs as described by museologists but could be economically produced for use in museums by sharing common elements of their underlying computer code. With such software at their disposal museums would be well placed to embrace some of the major educational challenges we will face at the start of the 21st century.

Postscript

Since this paper was presented in September 1999, the British Broadcasting Corporation has adopted Conveyor as a part of its History 2000 initiative; the software itself has been upgraded to version 1.3; some 1,100 copies of Conveyor have been distributed to British museums and we are arranging its distribution to museums in several other European countries. Furthermore, the PagePlayer initiative has received funding from the Esmee Fairbairn Charitable Trust which will ensure that the momentum of this project is sustained.

Conveyor and PagePlayer developments can be followed at: www.regency-town-house.org.uk

Enquiries about the systems should be made to: nick@regency-town-house.org.uk

We are grateful to the following for assistance with our template research:

The Headley Trust, the Department for Culture, Media and Sport, the Scottish Cultural Resources Access Network, the Heritage Lottery Fund, the Esmee Fairbairn Charitable Trust.

Apple Computer Inc., Philips Electronics, Iomega Co., Macromedia Inc. and Adobe Systems Inc.

A special thanks also to Emma Prunty and Alan Morris for their R&D contributions and The Trustees of The Brunswick Town Charitable Trust for their ongoing support.