

## **CD ROM Preservation**

**Title:** Medieval Realms: Britain From 1066-1500 An Interactive Multimedia CD-ROM

**Series:** Sources in History

**Year:** 1994

**Author:** The British Library and The Open University.

**Software development:** Sadler Johnson and Mike Peterson.

**Publisher:** Films for the Humanities and Sciences.

**Edition:** Version 1.0

1 CD ROM Windows edition

ISBN 0 7123 4308 3

**System requirements:**

Minimum: IBM compatible PC; 386SX processor, 2Mb RAM; SVGA Graphics (256 colors); MS-DOS 3.0; Windows 3.1; Windows-compatible mouse; CD ROM drive; Windows compatible sound card.

Recommended : 4Mb RAM; MS-DOS 5.0 or later; Windows 3.1 or later; Windows compatible sound card.

**Copyright:** The British Library (1994); Software The open University (1994)

### *Overview:*

Medieval Realms is an educational interactive CD Rom intended for students in elementary and high school as a way into the study of the Middle Ages. Built from the collections of the British Library, this CD contains 623 written sources, excerpts from a wide range of writing (chronicles, lives, letters, charters, travel writing, poetry, romances, and drama). There are 35 excerpts in the original Middle English as well as Modern English, which can be compared side-by-side on screen. Sound clips are available of medieval music and spoken Middle English from Chaucer, *Piers Plowman*, and *Sir Gawain & the Green Knight*. Images of manuscripts, artifacts, paintings, sculpture, architecture can be viewed. All resources can be printed out or copied into word processing programs for editing. Includes extensive hard copy instructions describing the CD's resources and features. Searches can be done by topic, date, word, evidence type, or combination of criteria.

### *Software:*

The Medieval Realms Interactive Multimedia CD ROM disk has been produced by the British Library, with software developed by the Open University. It was developed under the CD ROM Applications Development Scheme, an NCET program funded by the Department for Education. I couldn't figure out the authoring tools employed to create this CD Rom, but I could note that DBASE IV and FOXPro for Windows 2.0 were used. If I had more time, I could contact the Open University in England and ask them about the software they developed (I sent them an e-mail but they never got back).

### *Components:*

Medieval Realms is essentially a large database of original source material from the period 1066 to 1500. Each piece of source is contained within its own record. There are 1475 records in total, comprising:

852 image files with pictures, manuscripts, buildings, sites and artifacts.

623 files with texts in English from written sources.

28 audio files with an associated sound clip of music or spoken word.

The CD ROM contains 24 folders containing .bmp files (images); 8 folders containing .wav sound files; 13 .sct Windows Script Components; 4 executables (.exe) files; 4 help (.hlp) files; 5 index (.ind) files; 1 text (.txt) file; 1 extension (.dll) file

*Behaviors and interactivity: how this CD ROM works.*

This work is essentially a big database, indexed according to several criteria and searchable in different ways. All records are linked and can be accessed by clicking on the hypertext link.

The CD ROM runs correctly in Windows 95. To be able to run the program in a Windows 98, 2000 or WindowsXP platform, it is necessary to have a Windows 95 emulator (which is embedded in Windows XP), and change the monitor resolution to 480x640 and 256 colors.

It doesn't run on Macintosh computers.

No Autorun CD

Setup.exe in the directory setup must be run to install the application.

The installation program creates a shortcut.

The mouse is the device to navigate the application.

A default printer in windows must be installed to have print possibilities.

The graphic files can be shown in full screen.

- Installing Medieval Realms in a stand alone PC: A simple installation utility is included on the disk. Medieval realms runs directly from the CD-ROM.
- Using the CD ROM: To start, you can run the .exe program from the CD Rom itself or install an icon in your desktop. You double click on the icon to load the software. The introductory screen displays information on copyright. Once you read it, you click on OK to remove it. To begin using

the program you select the Search option for the pull down menu. As it is usual with many Windows applications, all commands and instructions are available through a number of pull down menus displayed along the top side of the screen. The menus available are Files, Edit, Search, View and Help.

The files are brought together in a fully-indexed database which may be searched in a number of different ways. The sound clips are attached to images or texts files. Sound can be played by clicking on the Sound icon in the toolbar, when active. To cancel the sound at any point, the user may click on Stop Sound.

The Image and the documents files have a number of fields containing information:

Title- a brief description to identify the record.

Date- the actual date or date range of the event to which the image/text refers to.

Introduction – the introduction texts have been written by historians and teachers to help make the records accessible to students.

Document – for document records, the transcript and translation into modern English

Source – further information about the origins of the primary source material on the screen.

Copyright- the holder of copyright of the image or document on screen.

Searching: Each Topic (e.g. Society) is sub-divided into a number of Sub-Topics (e.g. Castle life). Each type of Evidence (e.g. Books) is also sub-divided (e.g. Chronicles). You can perform searches by Topic or Evidence Type, and also by Date, or you can perform word-searches on the complete records.

Searching by topic: To select records by topic, you can pull down the Search menu and select by Topic. You are presented with a list of topics to choose from. Highlight the required topic by clicking with the mouse on its name. It is possible to refine the search by choosing a sub-topic. A list of the sub-topics available within this topic appears in the right hand dialogue box.

When you select a Document Record from the Record List, it will be displayed on a Record Display Screen. Each record has a Title which appears on the Record List, a Date, an Introduction, a Document field and a final field indicating the document's Source. You may scroll through the text using the Windows scroll bar on the right-hand side of the screen, or using the Page Up and Page Down keys on your keyboard.

If you have selected a Picture Record, the record will be displayed in a split screen. You may determine the relative amounts of screen area allocated to picture and text by using the mouse pointer to drag the central bar to right or left. You may navigate around the document quickly by clicking on the icons in the Toolbar. Other options are available via the File, Edit, Search and View pull-down menus.

You can create your own Record List from the initial lists created by searches, especially if the search criteria are fairly broad. For example, you may be specifically interested in identifying medieval portraits. Performing a topic search on Painting identifies a fairly general list of records, some of which contain portraits and others more general information on medieval painting. Using the Tag feature you can create your own sub-set of records from any Record List.

Tag lists may be built up from more than one search. For example, you may wish to perform a topic search on Painting, tag some of the resulting records, then perform new searches on Architecture and Sculpture and add some of these records to the list. Clicking the Tag list icon from the Record Display Screen will display the complete list of tagged items from all searches.

You can also compare two records side-by-side on the same screen by first selecting and displaying one record and then adding a second one to it for

comparison. This is very useful to compare literary texts in the Old and Modern English Versions.

To help users become familiar with many common words in medieval documents and many concepts of medieval life, the program includes a Glossary of terms found in the records. To access the Glossary you click the Record List or, alternatively you may select Glossary from the Help pull-down menu. The Glossary may also be accessed directly from within the text of any record. Glossary entries are arranged alphabetically; you may scroll through the list using the Windows scroll bar, or jump automatically to the letter of the alphabet you need by clicking on the appropriate letter at the top of the screen.

File formats:

**.BMP** Bitmap Microsoft Paint. RGB color space. Lossless (although it admits several degrees of compression). Suited for archival purposes, although it is almost no longer used. It's a Microsoft imaging programs and native windows imaging format. Not capable of extended bit depth, best suited to 256 colours. Developed by Microsoft in 1986.

**.WAV** WAVE Windows Audio Video. The data is stored "raw", with no reprocessing. It is Microsoft proprietary. More suited to archive use than access

**.EXE** : executable files to run the application

**.NDX ; .IND ; .PR3 ; .PR1** : these file formats are, in this context, associated with DBASE IV and FoxPro 2.0

### *Conclusions and recommendations for Archiving and Preservation*

The results of several studies suggest that using software emulation to reproduce the behavior of obsolete platforms on newer platforms offers a way of running CD Roms in the long term, in this manner recreating the content, behavior and "look and feel" of the original work . According to different sources and bibliography I've been reading, different approaches have been suggested to combat obsolescence of software and hardware. One method is "migration": to convert files to new platforms or different programs. This is especially useful if it could be converted to a standard, non-proprietary format. However, conversion may lead to loss of functionality. But there's always the risk of losing functionality or "look and feel" characteristics with the successive conversions over time.

The best preservation technique for CD ROMs, then, seems to be emulation: the recreation of superseded versions of operating systems and programs in new environments, so that the files can be kept in their original format and read with the software in which they were created. The use of standards and documentation facilitate long-time preservation. The cooperation of the industry and individuals who developed the software is essential.

To access the data we need the originating software. To run the software we need the operating system it was designed to run on. To run this operating software we need the hardware it was designed to run on. Since there are many different kinds of software in most multimedia products, when dealing with CD ROMs you are dealing with many layers of dependence on machines and programs. Along with the obsolete equipment comes a knowledge / expertise problem - even if you can find the program, you might not be able to find anyone here who knows how to operate it. And even if you can migrate them, there is a challenge in maintaining the integrity of the information. It is also necessary to preserve the look and feel of the CD ROM, because moving to a new platform is most likely to change the way it works. Some experts talk about "lossy" and "lossless" migration, just as we talk about lossy and lossless compression.

Risk assessment for the preservation of CD ROMS entails envisioning ways of monitoring the risk levels that will indicate when action is needed, such as deterioration of the data or changes in technology that mean it is time to move on to another carrier or another format.

Documentation is very important, and I think that the following information is essential as metadata to be able to access the content and behaviors of the CD ROM in the future: hardware platform, processor speed, RAM, Hard disk space, CD-ROM drive speed, type of monitor, resolution, sound card, operating system, other software, software drivers, minimum requirements for operation, recommended requirements, year of manufacture, copyright warning.

Having said all of the above, I personally think that I wouldn't go out of my way to preserve this particular CD Rom. It is an educational tool that can be easily reproduced. The images can be generated anew using newer scanning techniques and technology and up-to-date file formats like .TIFF. The interactive features are not complicated and entail

mainly a big database with good links between the items. I would probably also recommend to put all this material on the web, so that it could be accessed on line.

Sources:

Preservation of the digital heritage, United Nations Educational, Scientific and Cultural Organization, April 2002.