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abstract

This paper considers three aspects of the use of microcomputers in United Kingdom museums.

Use of microcomputers by UK museums has been surveyed by the newly-formed MDA microcomputer advisory group. This survey showed that the majority of such systems are used for word processing and/or the entry of catalogue records. The results of the survey have been published in an advisory document on the potential role of microcomputers in museums.

The implementation of the Gos information management package on a 16-bit microcomputer is described, and the use of this system at the MDA and elsewhere is outlined. It is hoped that this implementation will be transferred to other MC68000-based microcomputers, particularly those supporting the Unix operating system. Future plans include the provision of improved data transfer facilities within the MDA, and of software to support the entry of catalogue records.

A new application of Gos, for site/locality records, is being jointly developed by the MDA and Derbyshire Museums Service. This is based on the MDA's data standard, and as well as supporting MDA locality media will also cope with records based on a number of widely-used archaeological site and locality formats. This application of Gos may allow the unification of locality records from a number of sources.

introduction

This paper reviews three developments related to the potential use of microcomputers in museums. These are the formation of an informal advisory group and the publication of a document on the use of microcomputers in museums; the implementation of the Gos program package on a 16-bit microcomputer at the MDA; and the development of an application of Gos to deal with site and other locality records.

museum use of microcomputers

An informal MDA Microcomputer Advisory Group was set up in early 1983 to provide a forum for the discussion of potential applications of microcomputers in museums. After an initial meeting, the MDA organised a two-day seminar on microcomputers which considered various general topics such as data entry and the practicalities of running a system, as well as specific applications. The group then set up a small working party to

produce an advisory document for museums that were considering the adoption of microcomputers [1].

As part of the preparation for this document, a survey of museums that were known to have installed microcomputers was conducted in June 1983. This survey showed that 28 institutions owned 40 distinct types of microcomputer system. The commonest applications were the data entry of catalogue records (16 types of system) which were to be transferred to another system for full processing, and word processing (14). The only other common applications were cataloguing (6), administration, research/dbms applications, and collection management (all 5). The only widely-used software package was Wordstar (15), with DMS (5) and Gos (4 in 2 institutions) the only other common packages.

#### use of microcomputers within the MDA

The MDA has recently (summer 1983) implemented its Gos program package on a Cromemco CS-2 microcomputer. This is a 16-bit system, based on the MC68000 microprocessor with 512Kb main memory, running under the Cromix (Unix-like) multi-user multi-tasking operating system. This implementation provides an environment for Gos similar to that found on mainframes, except that hardware is not provided for floating point arithmetic and so suitable software will need to be found to support the floating point facilities in Gos.

It should be possible to transfer this implementation of Gos to other MC68000-based microcomputers with sufficient main memory, especially those running under the Unix operating system. The MDA would be interested in co-operating with any potential Gos user who had such a system in mind by helping with the provision of a BCPL compiler, etc., and with the design of the Gos implementation.

Within the MDA, this system is now being used for software development work, word processing and small-scale processing of museum catalogue records. This processing is carried out by the MDA as part of the computerisation service offered to museums. Such museums are increasingly choosing to do their own data entry, and send machine-readable media rather than completed record cards to the MDA. This process is currently hampered by the limited range of machine-readable media that the MDA can accept.

The main limitation of the MDA's current system is the amount of secondary storage available, and the imminent arrival of a large capacity disc unit should allow all the MDA's processing work to be carried out on the in-house system. The original system will then have 160MB of secondary storage, together with a magnetic tape drive capable of dealing with standard  $\frac{1}{2}$ " tapes. A second Cromemco system has been ordered. The National Maritime Museum has transferred this implementation of Gos to its three in-house Cromemco microcomputers, and is using it successfully.

This scale of system is necessary for the processing carried out by the MDA on behalf of museums, and experience elsewhere suggests that all but the smallest museums would require computer systems on at least this scale to support the files that they would generate.

The MDA is working towards the provision of improved data transfer facilities, to allow museums to send catalogue records to the MDA in a wider variety of machine-readable formats. An Epson HX-20 running the Intext software has been donated to the MDA. Initial evaluation suggests that this system would be a suitable data capture device for certain applications, e.g. those where portability is required and an electricity supply may not be provided, and that cassettes prepared in a museum can be successfully, if slowly, transferred from the MDA's Epson to its Cromemco system. A Cifer microcomputer with facilities for reading and writing diskettes in a variety of formats has recently been ordered. This should allow museums to prepare catalogue records on standard Z-80 microcomputers and to send the results to the MDA on diskettes. Results produced by the MDA could also be returned to the museum in machine-readable form. It is hoped that software to support the entry of catalogue records on standard Z-80 CP/M microcomputer systems can be developed in the near future.

#### a new application of Gos - the Locality Applications Package

Gos is a general-purpose information management package designed to produce catalogues and indexes from files of records which conform to a specified hierarchical data structure (representing the categories of information present in the data and the relationships between those categories).

The major application of Gos currently in use is the Object Applications Package (OAP), a set of facilities for processing object records that conform to the MDA's general data standard. This application provides suitably general data structures, and control files (specifications) that allow Gos files to be created and listed out in standard formats. There is also a 'toolkit' of library procedures to aid the production of specialised catalogues and indexes.

The MDA is now working in conjunction with Derbyshire Museums Service, who use Gos on their County Council mainframe computer, to develop an analogous Locality Applications Package (LAP) for locality and site records. The initial impetus for this development came from Derbyshire, where it was felt that such an application of Gos could be used for a wide variety of purposes. The first major application will be for the Derbyshire and Peak District Sites and Monuments Record, but other possible applications include borehole and mineshaft records, as well as records of domestic and listed buildings.

The initial design of the Locality Applications Package was undertaken by the MDA. As well as the full range of locality media published by the MDA itself (including the Geology Locality sheet and a draft Archaeological excavation card), widely-used media produced by external bodies (such as the DoE Ancient Monuments record form, the National Monuments Record Excavation Index card and the Biological Records Centre habitat card) were taken into account. The ultimate aim is to provide a similar range of facilities to those available in the OAP. Structures for the input and storage of records, procedures for creating Gos files from input text, and a standard layout for checking records (Figure 1) have so far been developed.



MUSEUM RECORDER

PERSON: Stanley, M.F.  
DATE: 23.7.1978  
RECORD TYPE: secondary  
METHOD: literature search

DOCUMENTATION

DOCUMENT

REFERENCE

CLASS: described  
PERSON: Aitkenhead, N.  
DATE: 1977  
TITLE: The Institute of Geological Sciences  
Borehole at Duffield, Derbyshire  
JOURNAL: Bull. Geol. Surv. G.B.  
VOLUME: No. 59 pp1-38

DOCUMENT

REFERENCE

CLASS: mentioned  
PERSON: Weaver, J.D. & Stanley, M.F.  
DATE: 1977  
TITLE: Exposures of the Widmerpool  
Formation (Dinantian) in South Derbyshire  
JOURNAL: Mercian Geol.  
VOLUME: Vol. 6 No. 2 pp103-117

Figure 1: example of a Locality Applications Package record in 'checking display' format.