A Documentation System for Archaeology

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Introduction

This paper briefly describes the system for archaeological
documentation at the National Maritime Museum. The system
encompasses a number of related areas; including maritime
archaeology, related historical and ethnographic studies,
conservation of material recovered during fieldwork, and research
into the conservation of finds from maritime context.

An initial examination showed that there were already a number of
files of information, and several well defined classes of
material requiring documentation. These were objects, slides,
drawings, information files, samples, conservation records,
contexts, photographic negatives, bibliographic references and
carbon 14 dates. These totalled approximately 20,000 items. A
survey of the use of these sources of information showed that
they were all consulted quite frequently, except the contexts and
carbon 14 dates, which were rarely used.

The system for documentation at the National Maritime Museum uses
the GOS programme package (MDA 1980), and a data standard
developed in parallel with that produced by the Musueum
Documentation Association (MDA 1980a). Archaeological records
would have to conform to the data standard, and in computerised
form would have to be capable of being formatted for transfer to
the GOS package.

System design

The overall strategy was to set up a seperate file for each of
the classes of information described above. However
bibliographic references and photographic negatives were already
the subject of museum-wide projects, so it was merely necessary,
when appropriate, to indiate a reference to them. Additionally
because context and carbon 14 dates were rarely consulted, and
there were only a few hundred records in each case, it was
decided to make them low priority. However, because contexts are
central to the recording of excavations, and the carbon 14 date
list was required for a publication, these classes of information

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were included in the scheme.

The features of the documentation system are broadly similar for each class of information. These are:

a) Number

Each item which is documented has a unique number. This consists of a three letter code for the museum (NMM), two letters showing that the item is archaeological, and the class of item (e.g. AO for archaeological object) and the number (a letter followed by a four digit number - A1234). This is written NMM AO A1243.

b) Computer file

A computerised file containing salient information about the item, and references to all other sources of information about it.

c) Data capture

In the museum, data is directly entered to the computer using an interactive programme package. For convenience in collating the data a form is available, and for use in the field, forms on waterproof paper are provided. Additionally an Epson portable microcomputer, also provided with an interactive data capture package, may be used at remote locations.

d) Routine output

Data from the file is routinely output in the form of catalogues of all or selected information about all or selected items. Data is also output onto floppy disks in a form suitable for transfer to the GOS package.

Linking mechanisms between files

The preliminary operation of the system illustrates the convenient division of the information into discrete classes. However several classes of information may be relevant to one project. Three methods of linking are employed:

a) Data standard

All classes of information use a portion of the National Maritime Museum data standard for Objects. This insures that different classes of information are recorded to the same format, and that our data may be compared with that produced by other institutions using the MDA data standard.

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b) Cross referencing

It is possible to cross reference from any item to any other item, using the unique number which each item has. All items are cross referenced to the appropriate information file, and to the object record if this is relevant.

c) Vocabulary control

Short lists of permitted terms have been defined for a number of key attributes. These lists are common to all classes of information, and the terms thus used may be qualified with a passage of text.

Computer Facilities

Hardware consits of a Cromemco CS-1H, with VDU and printer. This is a Z80 based microcomputer, with 64K memory, 400K floppy disk drive and 5mb Winchester disk (20mb is now fitted as standard). It was chosen because it is compatable with other systems in the museum, will run the large quantity of software which uses the CP/M operating system and has proven reliability. Additionally it is easily upgradeable to a 16 bit (68000) processor. For data capture at remote locations an Epson HX-20 portable microcomuter is used, which may be interfaced directly to the CS-1H.

The software requirement was for a file management system which could accommodate long records (up to 2000 characters), with a large number of fields (up to 100). Interactive input, editing and output, which could be operated by inexperienced users were necessary. The package would have to have the ability to reform, and transfer data elsewhere (for instance to the GOS package), and would have to be capable of performing simple manipulation of the raw data. At the time the project started there did not seem to be a commercially available package which would easily perform these tasks, so it was decided to use the software developed for the Welland Valley Project at Maxey (Booth et al. 1984) as a basis for developing a new package.

The package developed consists of two sets of programmes. The first, SETUP allows the user to define a file, and vocabulary lists of words to be used by this and other files. The second, MASTER, performs operations on the file defined by SETUP, using any appropriate vocabularies. The file used normally has fixed length records, with a fixed number of fields, which may be accessed randomly or sequentially. Routine operations which may be performed on the file include interactive input and editing; printing of all or selected parts of records; retrieval of records conforming to specific characteristics; counting the

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occurence of records conforming to specific characteristics; and adding of values contained in selected fields. Facilities for the management of the system include setting up of new files; erasing (and cancelling erasure) of records; printing the numbers of void records; outputting to a file of different format (for instance to a sequentially arranged file for archiving, or to a file with fields tagged ready for processing by GOS); reformatting of records - adding or deleting fields, changing the record length.

Management of the system

The proper functioning of the system is dependent on comprehensive documentation, coupled with a programme of training for all users. Manuals which have been produced include a system overview, software and computer operations, and individual manuals for each class of information.

Conclusion

The bulk of the system has been in use for over a year, and some of the data is now to a high standard. It has proved to be flexible enough to be modified in the light of experience. The next stage is the transfer of significant quantities of data for processing by GOS, and the testing of the links between the various parts of the system. Sucess so far can be attributed to consistent use of a well thought out data standard, and the development of workable and well documented management procedures. Effective software for initial data input, coupled with good communication to the GOS package are also important.

Rererences

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