SCIENCE AND HERITAGE INQUIRY – SUBMISSION OF WRITTEN EVIDENCE

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1. Introduction

1.1 The Museum Documentation Association (MDA) is the UK's lead organisation for knowledge and information management in museums, galleries and heritage sites (hereafter 'museums'). MDA is funded in England by the Museums, Libraries and Archives Council (MLA), in Wales by CyMAL through the Welsh Museums Federation and in Scotland by the Scottish Museums Council (SMC).

1.2 Documentation is the name given to the technical practice of cataloguing and information management in museums. It is the process by which heritage institutions establish legal title to the objects in their care, and ensure that they are well-managed as part of their collections.

1.3 A significant proportion of expenditure on heritage collections is attributable to documentation, in the form of staff capacity and systems procurement. This represents an investment in excess of £1bn over the next decade from both the public and private sectors.

1.4 MDA's key areas of expertise relate to the use of new technologies in the heritage sector. For this reason, the following paper does focuses on the role of ICT in the heritage sector, and particularly as a mechanism for supporting public engagement while minimising the impact on long-term conservation.

2. The role of MDA & Documentation

2.1 MDA's work is driven by a Vision of a sector in which collections are managed effectively and in accordance with national standards to create inspiring, accessible and sustainable services for users. Much of this work is closely concerned with the use of ICT as a way of enabling the public to engage with collections.

2.2 The vast majority of museums now have some form of electronic Collections Management System in place. In many cases, this System is the focus of their use of ICT (other than the usual office productivity applications). Much of the existing ICT infrastructure is therefore devoted to the management of information about collections.

2.3 Until recently, this information has predominantly been used for internal stock-control and management processes. Traditional approaches to documentation have focussed on recording information about legal status, location, transfer and interventive processes such as conservation or preservation.

2.4 Increasingly, however, museums are making this information available online. The majority of systems suppliers now provide 'modules' which enable museums to publish their information online in the form of searchable databases.

2.5 The benefit of this process is that it is making available much more information about the significant proportion of museum collections that are not on display. The disadvantage is that it is highlighting the lack of descriptive and interpretive information held in management records.

2.6 While there is a significant increase in the *amount* of collections information available online, this has not necessarily been matched by improvements in its quality. The next stage of development will involve the creation of richer, more descriptive information which can be used to meet the needs of users. MDA is supporting this process in a number of key areas:

- MDA is implementing a **research and advocacy** campaign called *Collections for All*. The campaign is providing evidence of the social, intellectual, professional and economic impact of knowledge about collections. The key aim of the campaign is to demonstrate the value of collections information to the public.

- MDA and the London Museums, Libraries and Archives Council (ALM London) are developing a joint initiative called *Documentation for Diversity* which provides tools and standards for museums to revisit their collections information and interpret it to meet the needs of **diverse communities**.

- MDA provides a service called *SPECTRUM Terminology* which helps cultural organisations to develop standard terms to describe their collections. These in turn help to create **new approaches to searching** for collections information online.

- MDA and the Museums Copyright Group (MCG) are collaborating on a national strategy which will help cultural organisations to control the **publication and reuse** of their information online.

- MDA has been commissioned by the British Education and Communications Technology Agency (BECTA) to produce a feasibility study on new approaches to **licensing cultural content** for use by schools, teachers and learner.

- MDA publishes SPECTRUM, the international standard for **knowledge management** in museums. The aim of the standard is to ensure that museums manage their knowledge and information effectively and are able to publish it.

- MDA is developing an **XML format** based on SPECTRUM which will allow information from different museum systems to be brought together and published through online services.

- MDA works with MDA Partners (commercial suppliers) to validate software for compliance with SPECTRUM, thereby ensuring that **professional tools** support the publication of information by cultural organisations.

- MDA provides **training** to thousands of museum professionals each year. This training develops professional skills in interpreting collections information and managing it as knowledge which can be used to create online services.

3. Responses to Questions

3.1 In what ways can IT contribute to enhancing public engagement with objects of cultural importance, without compromising their conservation?

"Objects receive their significance only through the thoughts that cluster around them"[1]

An object of cultural importance consists of two elements. First, there is the physical object. Second, there is the information about what the object is, where it is from, who owned it and all the other elements which combine to make it significant. Very often, without the information about the history of the object, its significance is lost.

IT contributes to engagement with objects of cultural importance in three main ways:

a) It enables museums to collect and store the information about an object and to keep a record of its history;

b) It enables museums to take a long-term approach to the management and conservation of the objects in its care and;

c) It provides new channels for publication and broadcast of this information, which in turn increases public access and engagement with the objects themselves.

[1] Boas, F., *Some Principles of Museum Administration.* Science, 1907. 25(650): p. 921-933.

IT can enable access to published information about an object. This increases the audience for that object without subjecting it to physical intervention which might impact on its long-term preservation.

However, simple access to information is often not sufficient to secure engagement. Museums are beginning to explore the new opportunities created by IT for bringing this information together and presenting it in ways that encourage and facilitate interaction. These include, for example, online exhibitions, 'self-curated' exhibitions of digital material or the incorporation of object information into other services such as digital television or 3rd generation mobile services.

If information is understood as the 'raw material', then IT provides a mechanism for shaping this material into user-focussed services.

The other great advantage of IT is that it enables a much more targeted approach to the 'user'. For example, MDA's work on classification and tagging is helping museums to create information that is targeted to different parts of the National Curriculum. This means that teachers and schoolchildren are able to incorporate heritage information – and hence museum objects – into their learning.

3.2 Is there scope for improving the use that UK galleries, museums and others make of such technology?

There is tremendous scope for improvement. In reality, the heritage sector is at the earliest stages in learning about what IT can offer and how this potential can be harnessed. The process to date has followed the classic learning-curve of any industry that is engaging with new and particularly online technologies. The use of these technologies has moved from a model based on passive marketing to one that is much more about publishing, engagement and interaction.

A particular issue in the level of engagement with IT in the sector arises from the nature of available funding. Most sector investment has been project-based with clearly defined outcomes. While this has enabled the creation of large amounts of digitised material, it has left relatively little investment in Research & Development. This means that there is a gap between the available content and the sector's understanding of what the public want in the form of products and services.

It is worth noting that the only sustained investment in R&D activity is made by commercial organisations, the benefit of which is only passed directly through to their clients rather than the sector as a whole.

Museums have tended to take responsibility for the creation of 'home-grown' services which meet specific organisational needs. They have not tended to engage with the commercial/private sector, particularly around the delivery of IT-based services. There is a tremendous opportunity for museums to benefit from the large-scale investment which this sector has made already in developing these services. A clear example is the sector's drive to create its own 'search engine' for collections information rather than engaging with sector leaders such as Google or Yahoo which enjoy far greater market share.

The three key areas for improvement, therefore are:

- Developing skills in both IT management and content creation to ensure that people are equipped to create engaging services and sufficiently skilled to identify opportunities;

- Sustained investment in Research & Development both to support product innovation and to engage with the public's needs and expectations and;

- Forging partnerships with the private sector which ensure that heritage organisations and their information are apparent within existing services and able to benefit from sustainable investment and market penetration.

3.3 What, in the UK and internationally, are the best examples of the use of IT to improve access to and understanding of cultural objects?

The examples are many and varied, however, MDA has selected the following on the basis that each illustrates a different aspect of the potential application of IT to support engagement with cultural material.

Tate iMap
http://www.tate.org.uk/imap

The award-winning iMap project from the Tate took an entirely new approach to presenting museum objects online. The focus of the project was to enable access to visual arts (in this case, paintings) for the visually impaired.

To achieve this, Tate worked with visually impaired people and artists to break the images down into their constitutent parts (colour, tone, line, composition) and present these in ways which partially-sighted people could engage with. As well as presenting this information visually onscreen it is possible to download and print off tactile images which illustrate the main points.

The important lesson from the iMap project was its user-led approach. Tate allowed users to define their expectations in terms of online engagement, and this in turn created a rich and intuitive interface to the information.

24 Hour Museum
http://www.24hourmuseum.org.uk

Created in as the first virtual National museum, the 24 Hour Museum exists to promote public engagement with cultural heritage.

By adopting a journalistic and user-focussed approach, the 24 Hour Museum has succeeded in creating a portal to museum information that is used by over 1 million people a month, both nationally and internationally.

The 24 Hour Museum has also led the way in creating innovative 'location-based' services based on heritage information. Through their *City Guides* (funded by DCMS through Culture Online), they are enabling people to use cultural information to enhance their sense of place and community.

Birmingham Museums & Art Gallery – BMAGiC
http://www.bmagic.org.uk

BMAGiC is a service from Birmingham Museums & Art Gallery which demonstrates the next stage in the evolution of online collections databases. BMAG has provided an intuitive and user-friendly interface which allows users to search their entire collection, and to find relevant information and images.

At the same time, BMAG have taken lessons from the private sector and enhanced their interface to add value to the user experience. Additional functions include Amazon-style automated recommendations, 'themed' pathways through the content and the ability to create a personalised online service.

Fitzwilliam eGuide
http://www.fitzmuseum.cam.ac.uk/projects/eguide/fitzwireless.html

The eGuide project at the Fitzwilliam Museum in Cambridge is demonstrating the application of mobile and handheld computing to museum collections.

The innovative project, developed in partnership with a Cambridge-based IT company, provides museum visitors with a handheld computer through which they can access collections information as they move around the galleries.

The ultimate aim is to enable visitors to user their own IT equipment (handhelds, mobile phones, gaming platforms) to access information as an intrinsic part of their visit. The Fitzwilliam hope that this will extend the value of the visit beyond the museums walls and encourage repeated use.

4. Museum Collections, Science and Technology

4.1 In addition to the specific applications of IT to support engagement, there are a number of areas in which collections information is able to support the Science and Technology sectors. These include:

- Documented information about Natural Science collections provides a unique source of reference material for a number of research priorities including biodiversity, climate change and species variegation.

- Information about collections has provided reference material for product development in sectors such as the materials, textile and pharmaceutical industries.

- Documented information about the assessment and treatment of collections (including preventive conservation) provides an ongoing record of the impact both of new technologies for preservation and of environmental factors such as pollution control.

- Documented information has also found direct practical application, for example in the use of recorded sites of unexploded WWII munitions as a reference for the construction industry

- Collections information is able to address not only history-related elements of the National Curriculum, but also basic skills (literacy, numeracy) which are essential to Science and Technology teaching

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