

Interactive Sensory Objects Developed for and by People with Learning Disabilities

Nic Hollinworth, Faustina Hwang,
Kate Allen
University of Reading
Reading, RG6 6AY
+44 (0) 118 378 6261
{n.d.hollinworth, f.hwang, k.allen
}@reading.ac.uk

Andy Minnion, Gosia Kwiatkowska,
Nick Weldin
University of East London
London, E16 2RD
+44 (0) 20 8223 7561
{a.t.minnion,
g.m.kwiatkowska}@uel.ac.uk
nickweldinltd@gmail.com

Ticky Lowe
Co-ordinator Access to Heritage
project Liverpool Mencap
Ticky_lowe@hotmail.com

This paper describes a project that aims to help improve the accessibility of museums and heritage sites by creating a series of interactive, multisensory objects. The objects will be developed collaboratively by artists, technologists, people with an interest in heritage sites, and people with disabilities and their carers in a series of sensory art and electronics workshops. The workshops and the sensory objects will explore aspects of physicality and how to appeal to the entire range of senses for both control and feedback. In addition to creating new interactive objects, the project aims to learn more about how to engage people with disabilities as participant researchers in designing art objects, and how to make heritage sites more accessible generally.

Interactive art sensory objects, learning disabilities, museums, heritage sites, participant researchers.

1. INTRODUCTION

"Hands-on exhibits bring a space to life, giving a greater understanding and meaning to cultural heritage. This is especially important for people with learning disabilities"

Lord Rix, 2005, President of Mencap

The experience of handling artworks, as Lord Rix makes clear, enormously enhances our understanding of cultural heritage, and this is especially so for those with learning disabilities. For this social group, hands-on experience of cultural objects has in recent years become an important approach in promoting an understanding of cultural heritage as highlighted by the Access to Heritage Forum (Access to Heritage Project Blog), and in response many museums and heritage sites have established 'handling collections'. Yet there are many drawbacks. The materials made accessible to those with learning disabilities as substitutes for the originals are usually chosen by the curators rather than determined by the user-group, and are often of lesser quality than the main museum exhibits (Candlin, 2008). Furthermore, many materials are deemed by curators too delicate to be handled by the user group, and in some heritage sites access to the objects is limited because of the complex nature of the site's environment, and so

their character is sometimes limited to pictures in books.

This project aims to address this problem in three ways:

- (i) Create a series of interactive, multisensory objects that replicate or respond to artworks or other objects of cultural significance in our national collections. The artworks and cultural objects of interest will vary with the heritage sites - for example, Victorian cooking implements in a National Trust house or a farmer's plough in a Museum of English Rural Life. Artistic responses to the existing artworks might include, for example, a replica that has a screen or speaker embedded in it which responds to light or movement. This could trigger a recording of an oral history or a series of photos from the archives to appear on the screen, or perhaps a recreation of a physical experience such as the vibration felt when ploughing a field or even the smell of wet straw.
- (ii) Employ people with learning disabilities as participant researchers in generating and designing these art objects, so that they

cater for a wide and yet targeted range of needs.

- (iii) Explore techniques for developing interactive sensory objects, focusing on iterative design through participant workshops, with a view to developing best practice guidelines which can provide a basis for future development and provide a lasting resource for museums and heritage sites to support them in engaging with user groups.

The project potentially benefits heritage sites and their visitors, and helps to promote greater access to museum and heritage collections for people with learning disabilities.

2. BACKGROUND

“We experience reality with all our senses. We should experience our heritage the same way.”

Richard Crowest, 1999

For people with learning disabilities, there are many challenges in accessing museum collections, as recognised in *Touch in Museums: Policy and Practice in Object Handling* (Chatterjee, 2008). This book was developed from a series of workshops funded by the AHRC at University College London. It identifies the need for further research to improve accessibility of museums, particularly the role of touch in knowledge transfer, and recognises the huge potential museums can play in learning, enjoyment, health and social care, centred around a multisensory approach to tactile provision. In particular, Chatterjee refers to the chapter by Marcus Weisen (Weisen, 2008) ‘How Accessible Are Museums Today?’ which notes the significant barriers that many disabled people face in the enjoyment of museum collections and the size of the challenge remaining in order for the cultural rights of disabled and visually impaired people to be recognised.

The importance of widening participation is also recognized by The Museums, Libraries and Archive Council’s ‘Outcomes Framework’ 2010 (MLA Outcomes Framework), which stresses the role Museums, Libraries and Archives play in cultural participation. This framework document states that widening cultural participation “creates and maintains social capital helping individuals participate in society and the economy,” and it makes the case for delivery of outcomes at a local and regional level, noting that adult health, a sense of wellbeing, and the perception of equality are key indicators. While museums have focused on enhancing physical access to museums, “the absence of disabled people as creators of arts images and artefacts and their presence in works

reinforcing cultural stereotypes conspire to present a narrow perspective of the existence of disability in history” (Delin, 2002).

3. WORKSHOPS

At the centre of this project is a series of workshops that are fundamentally experimental and exploratory in character. In each, the academic research team works together with the participant researchers with learning disabilities to develop interactive art objects, and in so doing record their successes and failures. Participants take part in the design prototyping of the sensory interface objects, acting as experts and consultants in their disability. Through the inclusive design methodology of the workshops, the groups are encouraged to experiment, tryout and feedback their own opinions, rather than passively receiving what researchers think they need to access heritage. This opportunity to be a researcher for accessibility provision can be an empowering experience for a group whose opinion can often be overlooked or misrepresented.

Participants’ ideas, views and activities during the participatory investigations are captured through methods such as photographic note-taking, video ethnography and questionnaires, and the progress is made available online via a blog. The academic researchers use their own expertise as artists and technologists in guiding the exploration, and in particular, exploring the role of newly developed easy-to-use electronics (e.g. Arduino). In the process, we expect to explore and learn much about what is meant by meaningful and creative engagement, and the potential and means for achieving this.

In year one, participants will be engaged as researchers through collaboration with the Access to Heritage Forum, Liverpool, and will use the collections at Speke Hall (National Trust) as the basis for developing the interactive objects. In year two, participants will be recruited through the Tower Group, Limehouse, London, and will use the collections at The British Museum. Year three will involve participants from local special schools in Reading and use the collections at the Museum of English Rural Life (MERL) at the University of Reading.

4. EARLY WORK IN PROGRESS

The project started in April 2012. Since then we have held the first workshop where the project team met the participant researchers, looked at some everyday objects (e.g. a fan, a pair of woolly gloves, a feather boa and various other tactile objects) and explored how we use them and what was the effect of using them. The group explored

each object, what associations they made from the various textures, smells and sounds, and thought about how all these objects are in some way interactive and physical. Some electronic objects were also explored by the participants, including a touch sensor which produced music through a computer, and a bend sensor that manipulated a face on the computer screen.

The participants were introduced to the idea of documenting research through the use of photographs and video, and tested out a selection of different cameras to discover which one(s) were the easiest for them to use, and the most accessible. For instance, some cameras were considered too bulky, had too many buttons or buttons in the wrong place. We rounded up the session with some discussion on which camera was the most popular, by giving 'star' ratings to each, voted for by the participants.

5. BENEFITS TO MUSEUMS AND HERITAGE SITES

Museums and heritage sites both nationally and internationally can potentially benefit from the research, through guidelines to help improve the visitor experience. For instance, the project will explore ideas for displays with heightened sensory interaction and improved accessibility. Educators and designers of museums and heritage sites will be able to consult case studies from each museum to support them in adopting good practice in running inclusive workshops and providing accessible heritage displays in their own sites.

The ability to experience objects physically triggering media in museums and heritage sites, where you are often not allowed to touch the objects in the collection, presents new opportunities for visitors. People with disabilities could also benefit too: for example, wheelchair users could be provided with new techniques to access and experience objects that are currently inaccessible to them. This is the case with some heritage sites which cannot provide lifts due to listed building regulations.

Heritage sites can also benefit from guidance on alternative ways to engage people with learning disabilities acting as consultants, which will help them gain a real understanding of the needs of this group of visitors. This should help museums and heritage sites improve their service provision for people with learning disabilities, with the potential to influence policies on widening participation, for example in documents such as The Museums, Libraries and Archive Council's 'Outcomes Framework'.

The three sites that are directly involved in this project will benefit from the new handling collections developed during the project, which will be left at the sites so that they are available to museum visitors after the project has ended. The Museums and Heritage site will keep the interactive objects as part of their collection for public engagement. The British Museum is keen to involve their curators and outreach staff in the workshops. MERL will highlight the project as a case study that other museums might use in creating inclusive workshops, and in encouraging volunteering for people with Learning Disabilities.

6. ACKNOWLEDGMENTS

The research is funded by the Arts and Humanities Research Council (AHRC), grant AH/J004987/1. We thank the Mencap Liverpool Access to Heritage Forum, The Museum of Liverpool, The National Trust and Speke Hall, The Museum Of English Rural Life at the University of Reading, and The British Museum.

7. REFERENCES

- Access to Heritage Project Blog
<http://accesstoheritageproject.blogspot.co.uk/>
last accessed on 15/06/2012.
- Candlin, F. (2008) Museums, Modernity and the Class Politics of Touching Objects, in *Touch in Museums* (Chatterjee, H., editor), Berg Press.
- Chatterjee, H. (2008) *Touch in Museums: Policy and Practice in Object Handling*.
- Crowest, R. (1999) *Making Sense: Multisensory Interpretation and the Visitor Experience*, MA Dissertation, University of Surrey, p 49.
- Delin, A. (2002) Buried in the footnotes: the absence of disabled people in the collective imagery of our past. In R. Sandell (Ed.), *Museums, society, inequality*. London: Routledge.
- MLA Outcomes Framework,
<http://www.inspiringlearningforall.com/>, Last accessed 18/06/2012.
- Weisen, M. (2008) How Accessible are Museums Today?, in *Touch in Museums* (Chatterjee, H., editor), Berg Press.